DEFENCE R&D DÉFENSE

Letter Report
Project Clear

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Technical Report
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LETTER REPORT

Project CLEAR: Intrusive Investigations of Designated Landfill Located on the Connauaght Ranges Primary Training Centre (CRPTC); The Site May Contain Materiels and Containers Related to the Chemical Warfare Agent Training and Research Programs of the Department of National Defence.

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Prepared For: LCol. Brian Johnson
Commandant, Project Director
CRPTC

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Date: 20 April 2001

Background

1. The Connaught Ranges and Primary Training Centre (CRPTC) is located on Department of National Defence (DND) property situated in the west end of Ottawa, Ontario. The CRPTC has a landfill site which could have within it's boundaries materiels such as Chemical Warfare Agents, (CWA) biological contaminants, laboratory hardware or explosive ordnance items. Anecdotal and historical information with respect to the landfill suggests that these materiels may be present.

Comprehensive Environmental Assessments (EA), detailed Scopes of Work, Health and Safety plans (H&S) combined with a Field Technical Plan (FTP) were produced in support of Project CLEAR with Phase I of the project being specific to detailed intrusive investigations of four clearly delineated trenches located in the landfill; it is known, from a number of Geophysical Surveys (GS) that these trenches contain numerous metallic anomalies.

2. DND has hired several contractors through Canadian Forces Support Unit Ottawa (CFSU) and Public Works to carry out detailed environmental studies and to identify potential impacts related to potential migration of contaminants from the landfill into Shirleys Bay.

In addition to this, a team from Defence Research Establishment Suffield who specialize in hazardous site remediation operations involving CWA and CWA munition issues will lead and conduct the intrusive portions of the work.

3. In conducting their assessments, environmental contractors and DRES staff compiled information and data from a number of sources to provide a description of possible activities which may have been conducted on the property and contributed to the landfill contents. Included in this documentation was information regarding identification of contaminants, the existence of surface debris (construction materials), suspect concrete blocks, general waste, and the potential for the presence of chemical-biological warfare agents or materiels related to CWA programs.

Additionally, and in light of the fact that the landfill is located on military (DND) lands there remains the posibility that hazardous unexploded or discarded ordnances and munitions may have been deposited in the landfill.

4. Based on historical data and using information available in the National Archives, Ottawa, it is known that a number of military establishments were actively used for chemical warfare training over the period 1942 - 1945 (and possibly later) and that chemical warfare agents were stored, used and disposed of as part of this training. Chemical warfare training facilities were located in special areas on military bases throughout Canada and typically included lecture huts, gas chambers, and mustard gas pits. These facilities on many bases have long since been demolished and no buildings or structures related to CWA activities are evident in the CRPTC.

5. The primary chemical agents used in such training included mustard (HD, bis-2-chloroethyl sulphide), phosgene (CG) and chlorine [2]. Typically, these agents could be found in glass vials in chemical agent identification kits, in gas grenades or other munitions, and, except for mustard, in pressure cylinders. Mustard could be stored in bulk in drums or in munitions. The chemical agent identification kits also contained small quantities of other agents such as lewisite (L), bromobenzylcyanide (BBC), Adamsite (DM), diphenylcyanoarsine (DC) and chloroacetophenone tear gas (CAP).

6. Historical information indicates that many sites may have been staging/destruction areas for chemical weapons immediately after World War II; for example, chemical mines were destroyed by burning in 1946 at Sarcee ranges in Calgay, Alberta. The destruction of mines and ground bombs typically occurred by placing items in an excavation, soaking the items with fuel and igniting the fuel to promote explosions. The excavation would then be backfilled once all the items had exploded. Information also indicated that chemical agents and related waste products may have been disposed of by land filling at various sites throughout Canada.

DRES Tasking

7. Because of concerns raised by the discoveries of live (fuzed) ordnance and decontaminated biological materiels during Project ORACLE (DREO) combined with the close proximity of the CRPTC to the CRC site, the potential to find chemical warfare waste during intrusive site investigations in the CRPTC landfill area combined with the anecdotal information with respect to animal carcass disposal, DND (CFSUO) requested Defence Research Establishment Suffield (DRES) be responsible for the intrusive investigation portion of the project; in addition to this DRES will provide advice, and technical expertise in support of the work.

Project Name

8. DRES assigned a codename for this project for reference, *viz:*

CLEAR: (Connaught ranges Landfill Environmental Assessment and Remediation)

Study Areas

9. The areas of investigation are four trenches identified during Geophysical Surveys (GS) of the entire landfill area. The excavation and recovery operations initially were to encompass four trenches located on the site; This portion of the project known as Phase 1 intrusive investigation was completed on Sunday 11 February, 2001.

10. All designated areas (anomalous regions) were subjected to a Level 1 ordnance identification surface sweep by DRES personnel to remove any scrap or identified materials. After removal of surface metallic debris, detailed geophysical surveys of the entire landfill were conducted by contractor using EM-61 electromagnetic survey equipment to detect buried metallic objects ("anomalies").

Field Technical Plan

11. The DRES developed Field Technical Plan (FTP) No. 340 (see references) describes in detail the plans for excavation of designated sites and the recovery and disposal of any chemical agent-related waste found during intrusive work. Included in this FTP was a Scope of Work for the intrusive investigation work for personnel employed at the site as well as an excavation plan which was similar in scope to that used on previous remediation projects carried out by DRES.

Health and Safety Plan

12. DRES has a comprehensive Health and Safety plan (see references) specific to the project; the plan covers all H&S issues as they pertain to CW agent handling and recovery operations including levels of personal protection.

Initialization of Emergency Response Procedures

13. DRES developed an Initialization of Emergency Response Procedure work plan in order to facilitate the co-ordination and deployment of emergency responder and emergency support personnel to the landfill site. The plan provides clear, concise instructions to responders and identifies specific areas of responsibility for support and operational personnel including Range Control, Emergency Responders and DRES. (see references).

14. The work to be performed by DRES at this stage was considered preliminary in nature; that is, the present work focussed primarily on excavation of designated sites and examination of recovered "anomalies" to determine their nature.

Agency Responsibilities

15. For the preliminary site investigations, agencies involved had the following responsibilities:

DRES:

- reports directly to the DND Project Co-ordinator (LCol. B. Johnson) on all aspects of project activities within DRES areas of responsibility (Bullet logs, see Annex A);
- responsible for site contamination control procedures, chemical agent safety an provision of CB protective equipment;
- excavates, segregates, recovers and conducts on-site disposal of agent-related materials associated with designated sites;
- conducts site monitoring operations, particularly with respect to fugitive chemical agent emissions and reports any incidents;
- provides scientific and technical advice to other agencies on all matters related to the recovery and disposal of chemical agent materials;
- analyses soil samples collected from excavations to determine the presence of fugitive chemical agent vapours;
- certifies the designated sites to be free of chemical agent contamination following intrusive work;

Neil A Levac Consulting

- acts as independent consultant to the Phase I and reports on progress and safety/environmental issues during site remediation activities;
- collects soil and water samples from excavations. These samples are retained by the contractor for subsequent laboratory analyses of industrial chemical contaminants.

Schedule

16. The preliminary intrusive investigation to be carried out by DRES was scheduled for 03 - 19 February 2001.

Equipment and Resources

17. DRES assigned members of their CB Demilitarization Project Team to carry out the work in the Connaught Ranges Landfill site.

Mr Ken Pirie - Field Technical Manager
Mr Chris Adie - Technical Support/Chemical Safety
Mr Gary Soucey - Technical Support/Radiation Safety
CWO Jim Reid - Technical Support/ Explosives Safety/Military Liaison
Mr Rob Matheson - Technical Support/Excavator Operation

18. Equipment items deployed in support of the intrusive site investigations included the following:

- Chemical Agent Monitors (CAMs, x6);
- 3-Way Detector paper packets for survey purposes;
- Portable infrared temperature gun;
- Hapsite portable GC/MS Vapour Analyser (Figure 6);
- Decontamination equipment and supplies for chemical contamination control;
- CF NBC Individual Protective Ensemble including C4 Respirator, NBCW Overboots and Gloves (approx. 5 complete changes for 7-man crew);
- Light Protective Clothing ensemble consisting of Tyvek coveralls, cotton hoods, socks, combat boots, work gloves and commercial rubber gloves (2 complete changes);
- Reactive skin decontaminant lotion (RSDL);
- Excavator equipped with a bucket and ripper attachment;
- Portable metal detectors;
- Waste containers to hold items and large amounts of decontaminated glassware;
- Rakes, shovels and small tools for soils investigations;
- Solutions of 10% potassium hydroxide in methanol and bleach decontaminants;
- Shuffle trays for footwear decontamination;
- Portable radios (local communication), see below;
- Photographic and video equipment, see below;
- Portable generators (x2);
- Miscellaneous items such as "gun tape", garbage bags, hammers, vice grips, wrenches, halogen work lights and stands, etc.

Photography and Video Recordings

19. All site activities such as excavation operations, contamination control procedures, and recovery of waste were photographed and video-taped for reporting purposes. DRES Project Team members took photographs and made video recordings using a portable video camera connected via cable to a television monitor/VCR located in the van.

Communications and Daily Logs

20. A local on-site communications network for the DRES Project Team was established and used during operations. This consisted of seven (7) hand-held portable radios utilizing a frequency previously approved for use at Connaught Ranges.

21. All information transmitted via radios or verbal information given at the command post (Decontamination Trailer) was recorded in the form of "bullet entries" into a daily log stored on a laptop computer. A separate log was kept for each day of work at the CRPTC landfill site. The daily logs for Project CLEAR are given in Annex A.

Contamination Control Procedures

22. DRES contamination control procedures, similar to those normally used on field trials, training exercises with the Canadian Forces and recovery/disposal projects involving chemical-biological materials and/or hazardous materials were used by all personnel during Project CLEAR intrusive investigations.

23. Prior to conducting work, access control points were established on the roadway leading into the site. The command post (Decontamination Trailer)) was established as the entry/egress point for all personnel working at or visiting the site.

24. DRES staff conducting work at the designated site wore light protective clothing and carried respiratory protection (C4 Respirator).

25. A two-zone contamination control system was employed, with a clean-dirty line separating the zones. These zones were established as follows:

- at the upwind perimeter of a given site (Pre-Decon station), and
- at the back entrance to the command post (Decon station).

26. The Pre-Decon station is normally used to decontaminate footwear and outer surfaces of the protective suit, respirator and gloves using 5% bleach solution before workers leave a site for final decontamination. **NOTE**: For Project CLEAR, no CWA contamination was encountered during intrusive work (see Excavations, below) which required the use of the Pre-Decon Station.

27. For each site, a clean-dirty line was marked out using stakes and survey tape with the footwear tray located on this line. Staff moved to and from the Final Decon Station on foot.

28. DRES staff underwent "decontamination" at the Final Decon Station at the end of each work shift. Because no chemical agent contamination was found, the procedures normally used in support of live agent field trials and training exercises were modified. In the present case, "decontamination" consisted of removing outer light protective clothing, boots and gloves in the back area of the decontamination trailer.

Excavations

29. The boundary of each trench to be excavated was marked with stakes and survey tape, using previously acquired geophysical data as a guide.

30. The designated sites were excavated in order, using procedures previously employed by DRES on other remediation projects. A typical digging plan which was used for Project CLEAR is described in the DRES Field Technical Plan (FTP 340) and the Integrated Scope of Work; documents produced specifically for the project.

31. All excavations started from a position just outside the boundary of a trench, usually on the upwind side and progressed across the landfill, intentionally to cross the location of detected geophysical "anomalies". From this main trench, three other trenches were also excavated at selected distances. Each trench was approximately 1.5 metres wide and up to 1.5 metres deep.

32. The excavation progress was monitored closely by spotters located on the upwind side of the excavation, with particular attention paid to observations of encountered solid objects or unusual soil conditions. Each load of soil removed was placed beside the excavation and surveyed with CAMs, metal and radiation detection equipment (annex D, radiation surveys). The excavator bucket was also surveyed frequently using CAMs. Temperatures within the trench and at ground level were taken remotely using a portable infrared thermometer "gun".

33. Any large objects (barrels, 5 and 45 gallon) or metallic "anomalies" found in the soil and determined to be leaking materials were removed form the spoils heap and immediately placed in commercial overpack systems.

34. Soil samples were then collected by the contractor in accordance with their sampling protocol and submitted to a licenced laboratory for analysis.

CAM Surveys

35. In general, there were no CAM responses obtained in either H- or G-mode for all surveys of excavated soil, trenches or recovered items. These results suggested that the soil or items were not contaminated with any mustard agent or organophosphorus compounds.

Radiation Surveys

36. Daily (AM and PM) surveys of the entire dig site were monitored and readings recorded with respect to radiation levels. (See Annex D)

Waste Recovery

37. During the excavation of trench 1 a quantity of laboratory glassware including syringes, broken vials, glass and rubber tubing was recovered. The items were tested for contamination, specifically materiel of a CWA nature. All test results were negative however it is suspected that other laboratory or like material may be uncovered during future investigations. In many cases, other recovered items were the source of geophysical "anomalies" detected by previous surveys.

Other Sites Investigation

38. Following excavation and surveys of the designated sites and with the agreement of all parties, it was decided that test pitting should begin around the landfill to clearly define and establish the dimensions of the landfill site. This was completed on Sunday 12 February, 2001. From this information it was agreed to by all parties that a Phase II of Project CLEAR would be a logical step and that initial planning should begin immediately. The proposed plan would see;

- Removal of all materials from the present landfill location
- Redeployment of the material to the gravelled area known as the "Quarry"
- Clean backfill deposited in the excavated area of the landfill.

Soil Sampling Results

39. Selected soil samples collected during intrusive investigations were analysed using the Hapsite GC/MS Analyser. This equipment was located and operated inside the decontamination trailer during DRES site investigations, as shown in Annex B.

Discussion

40. The investigation at the trenches designated as anomalous regions were successfully completed without major incident.

41. No chemical warfare-agent was found at the site investigated, as verified by CAM surveys and by sensitive soil sampling analyses. However evidence related to laboratory activities was discovered in the form of glassware and tubing; additionally the trenches, were contaminated by industrial and domestic waste items but that certain areas of the landfill site had previously been subjected to a thermal treatment, presumably by igniting fuel such as gasoline or diesel and burning the waste-in-situ before final burial. This practice can be successful in eliminating hazardous chemical contamination, if carried out properly. The presence of hydrocarbon residues found in some of the soil samples may be evidence of previous burning activities.

42. The results of the DRES investigations indicate that the trenches examined contained no CWA. However in light of the discovery of the laboratory materials additional intrusive work at the landfill site should not be carried out without the assistance of and field expertise of the DRES project team.

43. After review of the situation, site location, preliminary and final soils and water analysis DRES is recommending that field operations with respect to Poject CLEAR proceed in the form of a Phase II. This would see the expedient removal of the dump contents from the site (including soils) to an area of the CRPTC known as the Quarry; there are several clear advantages to conducting this work sooner rather than later;

- The DRES team (the only team in Canada who can do this type work) is available
- The work would be completed in a two week window thus allowing range activities to resume without further interruption
- Funding is available
- The quarry site can accommodate the materials
- Environmental impact on Shirleys Bay from contaminants would be greatly reduced
- The threat of a spring thaw causing washout of excavated areas would be negated

44. CB Demilitarization Project Team would remain in a "standby mode" to assist project authorities and contractors should items or conditions be encountered which indicate a potential chemical warfare-related hazard at the quarry site during the period when the DRES team is not deployed to the Ottawa region.

References

1. K Pirie, DRES Field Technical Plan No. 340, and the Integrated Scope of Work for the Intrusive Investigation Operations at Connaught Ranges and Primary Training Centre; Operational Plan For Excavation, Recovery and Disposal of Buried Chemical Agent Waste. January 2001.

2. K. Pirie, DRES; Health. and Safety Plan, Specific to Field Operations in Support of Project Clear, CRPTC, January 2001.

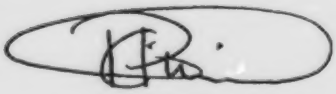
3. K. Pirie, DRES; Initialization of Emergency Response Procedures Specific to Field Operations in Support of Project CLEAR, CRPTC, January, 2001.

4. J.M. McAndless, K. Pirie and M. Stephenson, Project ERASER Final Report. Disposal of Old Chemical Warfare Agent Materials Buried In Concrete at AECL Chalk River Waste Management Area B. Suffield Special Publication No. 190, August 1997.

5. J.M. McAndless, Project Swiftsure Final Report. Destruction of Chemical Agent Waste At Defence Research Establishment Suffield, Suffield Special Publication No. 170, May 1995.

Annexes

Annex A. Bullet logs
Annex B. Hapsite GC\MS results
Annex C. Executive Summary of Soils and Water Results
Annex D. Contractor soils and water analysis reports
Annex E. Radiation Survey results
Annex F. DRES Phase I. Expenditures
Annex G. Minutes of Project CLEAR meetings



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ANNEX A

BULLET LOGS

Project CLEAR

February 4, 2001

- **0930 on site at Range Control**
- **0945 set up of trailer**
- **1130 lunch**
- **1230 setup at trailer**
- **1330 check out**

Project CLEAR

February 5, 2001

- 0700 arrived on site and got ready for media with Radio Canada
- 0710 Interview
- 0730 back to range control to pick up 3 ton, Ken and Gary to DREO for meetings
- 0815 to DREO to pick up Tri wall
- 0915 back at site to off load site clearing progressing
- 0930 off load and taking three phase furnace to storage, got stuck
- 1000 plumbers on site to set up water supply
- 1020 Rob and Jim back at trailer after there fabulous adventure
- 1025 Hapsite and Gary back
- 1100 Plumber on site
- 1130 Lunch
- 1215 Set up site, Heavy digger arrived
- 1300 Meeting
- 1400 water to site, keys and truck returned to Range Control
- 1430 (Hapsite) run up, called Chuck but still have a slight problem
- 1445 Still problem with probe heat-up on (Hapsite)
- 1515 Video line set out and tested
- 1600 shutdown of trailer

Project CLEAR

February 6, 2001

0700 on site
0715 plumber on site
0745 Ken and Jim to site
0750 RAD badges being set out, Ken Pirie TLD #152229, EPD 2 SN 05128168, and Reading 173
Jim Reid TLD # 055642, EPD 3 SN 05134406, and Reading 186
Gary Soucey TLD #324348, EPD 4 SN 5131935, and Reading 45
Chris Adie TLD #249633, EPD 5 SN 05131749, and Reading 9
Rob Matheson TLD #317089, EPD 6 SN 05132491, and reading 44
0810 Ken to DREO for administrative meetings expected to last all day
0820 Call for Mike to come to site regarding snow removal
0900 (Hapsite) run up failed on service module
0910 Attempt to run up without Service Module using NEG Pump with help from Chuck Sadowski at INFICON
0930 Snow clearing started and debris removal started
1100 (Hapsite) successfully started
1130 Lunch
1200 (Hapsite) initial run tried
1230 Run successful and (Hapsite) shut down
1245 Roof develops leak. Gary went up to sweep the roof.
1300 meeting at Range Control which led to a tour for the new Environmental group to show them the site and what they will need for sampling. Talk on water problem indicates that we will try to keep the water in the hole and will dig a catch trench and burm to stop any that may go to the bay. All water will eventually be sampled to determine possible contamination.
1345-1445 Tour Remena told to supply analyzers for Hydrocarbons, VOC's and Inorganic's. A plan for the dig was introduced and who will be on site and what their dress at any given time will be. Mike took Remena shopping for winter gear and will provide commercial respirators to her and Penny for when they will be on site.
1530 To Capt. Schmidt-Clever's office for map for public consultation
1531 First contingent of medics arrive for briefing
1548 First briefing ends
1600 Second briefing of Doctor and 2 medics
1625 Second briefing ends
1635 shut down of DRES personnel Commissionaire on site
1637 Chris to Range control for meeting with John and Penny

Project CLEAR

February 7, 2001

0700 Arrived at range control
0710 meet with Engineering team on what was expected on site with regards to H&S from a DRES perspective
0745 Chris, Rob and Gary to site
0750 Goldie Mohr on site and firing up Track Hoe
0751 Gary to DREO to pick up door knobs (install)
0800 Plumber, electrician and medic on site. (Hapsite) started.
0810 Electrician wiring/connecting water heater
0830 Staff meeting on responsibilities. Digging tentatively to start 1300
0900 Ken and Jim to Range control for meetings with John Gardner, Penny, Tina, Mike and the Engineering contractor
0900 Hapsite ready
0910 Video of site operations started
0930 Locate and move methanol drum stand
0940 connect video link and test system
1000 Site visit by Engineering Group. Still working on Video link (weak signal)
1010 discussions reference procedures of on site and off site pers
1015 Ken called in to update the team on situation, all in good shape..
1025 Chris checking on cams and downrange systems
1035 Tree and snow removal still in progress. End time around 1300
1110 Medics to liase with Range control to expedite communication
1130 Lunch
1220 Back on site
1300 Gamma and A&B Survey started. Mine detector survey started
1305 Meeting at Range control with Ken and all interested parties ref the scheduling and media events
1315 Mine detector survey inconclusive since metalic anomalies are numerous
1330 Gamma and A&B survey completed all results at background (good situation)
1335 Rob using the Backhoe to get stumps and snow removed from the site
1335 Nitrogen ordered. Mike's name and number given for invoicing .
1345 Site visit by the commander CFSU lasting about 10 minutes
1405 Site ready, Trailer ready, Personnel ready, Video ready. Waiting for start order.
1410 Site protocols worked out and in place
1415 dig plan established
1420 Ken back at site, personnel briefed and operations about to begin.
1435 Last waste container is being delivered to the site
1440 Mike gone to escort container vehicle to site
1448 Container dropped off and site secured in preparation for dig operation commencement
1517 Range control notified of Project CLEAR dig ops commencement
1519 Digging commences trench No.4, cut 1.
1526 Metallic and concrete debris, zero readings on CAMs, H , G and VOC
1527 Tape rewinding on video link
1525 CAM surveys remain at zero
1530 Video restored –picture good – recording
1532 Lots of construction debris (Trench L4) samples will be taken when required to establish background information base.
1533 Trench L4 water hit at the four foot level;
1536 Éric from (Neil A Levac Engineering) going to site to take samples from metalic debris area.
1545 Water sample taken from 4 foot level
1550 Once sample team have left the site we will sacrifice that end of the trench and dig as deep as possible to determine debris depth, water level and soils types of trench (L4 now at 6 foot level and soil samples

1507 Survey by CAM of red dye no G no H
1510 Three sample vials taken down to the site
1520 Gary to trailer
1522 G and H survey on CAM negative
1523 (Hapsite) analysis of soil from Feb 7 dig was negative but we were only able to get surface soil (agents01.acq)
1524 Rob is letting the water drain into the hole before dumping the bucket to reduce the amount of water that is placed outside the trench (L4)
1531 RAD, H, G sampling is negative. Samples to the back door.
1544 Water sample has no organic vapors that will come off with heating (agents02.acq)
1550 3rd sample for (Hapsite) working. Soil sample of freshly dug soil.(agents03.acq)
1554 sampling staff back to trailer and the digging is proceeding
1605 RAD survey of site at background
1610 Glass broke negative results on survey gear
1615 4th sample was done on (Hapsite) containing what looks like paint. (agents04.acq)
1617 Trench (L4) is being sloped for the night and digging will end in about 5 minutes
1618 Backhoe plugged in, video shut down. Robina and Erik to site for sampling
1622 Gary returned to trailer
1630 Sample 03 and 04 show very little activity may be some hydrocarbons
1637 Rob returned to trailer. Gary to site to do RAD survey
1648 RAD series done at end of day indicate background readings
1653 Gary returned to the trailer
1705 Jim, Robina, and Erik return to trailer
1715 finished sampling storage and turn trailer over to commissionaire

Project CLEAR

February 9, 2001

0700 CWO Jim will not be on site today, (Flu problems) Ken advised him to stay at the hotel.
0745 Arrived at Range Control.
0805 Arrived at the trailer
0810 TV video problems.the night guard seems to have adjusted the channels; we can't get it to re-set
0815 we are currently establishing the next trench line; the excavation work will be proceeding despite the poor weather conditions
0816 Chris, Rob Mike and two workers, Pat and Andre to site laying down plastic sheeting
0816 Mike will try to get some wet weather gear for the team, our tyvek can't handle the freezing rain
0820 The sample contractor will be delayed by road conditions, this will not delay dig-ops
0830 site preparations in full swing, Rob has the equipment up and running
0832 Range control contacted to confirm communications are OK
0834 video link good, Chris on his way back to the trailer
0835 Contractor (Levac) preparing equipment for sample recovery
0840 DRES team meeting prior to start up
0845 team dressing in tyvek to help keep the rain off
0850 Levac attempting to run a line for Rob
0855 Robina and Erik on site
0857 Gary, Ken, Rob Andre and Pat to site
0905 line marking in progress and track hoe getting warmed up
0908 Line marking just about finished and the poly will be laid down immediately after
0911 Gary and Ken back to trailer
0920 set up of (Hapsite) being done
0925 Tune of Hapsite completed
0930 (Hapsite) ready for any samples
0932 Ken doing admin
0934 Head of contractors to site
0950 Coordinates of the trenches seem to be not what OMM set out for us. New lines indicate some more snow removal is needed and some trees cut back. We will attempt to lay the poly down to do Trench (L3) in about 10 minutes
1000 Rob Gary and Ken preparing to go on site to lay down Poly
1002From north MW1 to north end of L1 is 25 meters. From MW2 to North end of L1 is 23 meters. From MW 2 to south end of L1 is 19 meters. From MW 1 to south of L1 is 40 meters. From MW1 to north of L3 is 20 meters. From MW1 to south of L/ is 30 meters. From Well 2 to North end is 35 meters. From well 2 to South end of L3 is 10 meters. From MW1 to North L2 is 20 meters and from MW1 to south of L2 is 31 meters. From MW2 to North L2 is 6 meters and from MW2 to South of L2 is 11 meters.
1010 Ken, Gary and Rob down on site to put out poly and changing CAM batteries
1015 Chris to site to redo video
1027 digging started on L3
1030 Negative H and G on CAM
1032 Hydrocarbon smells and glass bottles dating from 1956-58
1034 Glass tubing and Battery components found
1035 Syringe, rubber and glass found
1037 Laboratory Glassware and small arms cartridge cases found
1043 more of what was being found
1047 several unknown items to be examined later
1052 Heavy fuel odors and will clean out the end of that hole before looking at further digging
1055 More laboratory glassware found to a depth of 4 feet where they ran into a clay level
1056 shutdown to analyze level of clothing requirements
1103 Negative readings on CAM. Background on Gamma
1104 Staff to trailer through back door
1125 Shut down for lunch

1220 Rob, Gary and Chris back on site. Ken is in a meeting with Colonel Johnson, John Gardiner, Penny MacGregor and others about what was found this morning
1230 getting dressed for surveys
1240 Robina and Erik at the trailer
1245 Gary to site for A&B survey
1255 RAD survey for A&B at background
1300 Chris to site to fix video setup
1305 Video back on line
1310 Rob and Gary on site to begin digging wearing light protection, rubber boots, gloves vinyl suits and C4 respirators.
1312 Andre, Pat and Andrew at the trailer and were told not to go on site until we had finished digging. A decision will be made on when they will go in when their equipment arrives
1313 Gary fall down go boom
1318 Survey of spoil by CAM and RAD indicates negative results
1319 digging starts again
1320 construction material wood charred paper cartridge case(1964)
1328 going to do another survey
1329 Survey of Spoil negative and at background levels. Digging commences
1333 5 and 1 gallon cans, small cans and wood
1340 survey of spoil
1344 survey negative, digging commences
1347 cans and burned debris
1350 survey of spoil
1351 Diego and Bernie to the van
1352 survey negative, digging commences
1357 Construction material, metal scrap, assorted debris
1400 concrete and brick
1401 roll of fencing
1403 survey of spoil
1405 survey negative, digging commences
1406 construction material
1410 trench (L3) done as much as can be done at the moment need more poly put down. Digging will cease and survey of spoil is being done
1415 Gary and Rob back to the trailer
1425 Robina and Erik to the site to sample
1430 Chris to site for video
1440 Diego and Bernie in trailer
1441 Chris to Range control
1455 Robina and Erik back from sampling
1500 Robina and Erik report black, viscous substance in pit- Gary goes to check, take sample.
1503 Tree cutting crew arrive, mask up, and go to site to clear corner.
1507 Chris arrives back from Range Control
1530 Hapsite run (agents05.acq) tarry substance
1531 Rob to site to shut down Hoe. Tree cutting continues.
1600 Sample agents05 seems to be benzene in nature
1602 Hapsite shut down
1603 Gary to site to do RAD survey
1609 RAD results at background for Gamma and A&B
1625 Cartridge brass from pit dated 1964
1627 Gary to meeting at Range Control
1628 Rob, Erik and Robina are going to the site to set out lines for the weekend. Tree cutting continuing
1632 Chris returns to the trailer
1655 Rob Robina and Erik are back in trailer

Project CLEAR

February 10, 2001

0700 Winds moderate after high wind during the night, sky is clear
0730 DRES team arrive at Range Control
0745 meeting at range control with all parties. Decided to do the digs all day and Levac will be allowed in at the lunch break and at the end of day to do samples. Once the samples are done the trenches will be filled in. It was also decided that DRES would endeavor to find the extent of the dump site by digging with the track hoe. Digging is expected to be finished by end of day on Sunday
0800 Ken reiterated that site access control will be heightened and that only DRES pers will be allowed on site during the intrusive ops
0800 Jim, Rob, Chris at trailer
0805 all DRES surveys conducted, all instrumentation indicate negative response
0810 Erik and Robina at trailer preparing for sample runs
0815 excess poly picked up and placed in containment bin
0830 Ken and Gary still at meetings at range control, discussing logistic problems relating to equipment movement (resolved)
0835 Chris fell, (Elbow).
0840 Labor crew, Pat and Andre on site with backhoe; briefed as to days events
0845 Chris Robicheaud (Levac) arrives on site
0850 Jim, Rob, Erik and Robina to trailer
0855 Looking for North Gate key Mike to deliver; the garbage container will be moved outside of restricted area
0900 Mike and Chris (Levac) to trailer for discussions relating to sampling; (returning to range control)
0901 Ken and Gary went to scope out the quarry area as a prospective holding area for the dump site waste. escorted by MWO Courtemanche and John Gardiner
0905 Back filling part of trench 4 started, this will allow some swing room for the track hoe. The back gate will be opened to drag the scrap bin out the gate to create more room. The propane torch is required to open the lock as it is frozen.
0906 CAM survey negative response on G and H modes
0907 Scrap (waste) bin moved onto pistol range road
0909 Jim back to trailer for a break and to pick up extra CAM
0912 Pat and Andre to trailer, awaiting clearance to go to site
0915 Jim down to site; Rob is clearing dirt from of the plastic
0920 Ken back to trailer; went directly to dig area
0925 6 tar pails recovered and placed in environmental over packs.
0932 1 more tar pail to the over pack (qty 7)
0935 back filling continuing to create more room
0941 1 flattened can of orange paint recovered and placed in over pack
0945 Chris (Levac) to trailer to discus his schedule for the remainder of the day
0946 CAM surveys negative response on G and H modes
0950 digging commencing on trench (L3)
0955 Ken to move Backhoe onto site to facilitate back filling operations which will be conducted throughout the lunch period.
1004 Camera fell over (OK); several more cans taken from the spoil and placed in a new yellow over pack.
1015 Camera reset. Digging is slow in this central area of the site; in addition to this we are there is a lot of metal and the ground is frozen
1020 CAM survey Negative G and H Digging continuing
1030 CAM survey Negative in G and H and RAD survey for Gamma is at background levels
1032 Ken leaving site for the trailer
1045 (L3) finished and track hoe being moved to new position on L1
1046 CAD's system being moved
1048 Camera moving
1051 Digging on (L1) begins
1055 Delta 2 reports concrete slabs (15) with rebar excavated from site,

1105 the concrete is now removed; red bricks and piping are now being encountered; no CW related waste or materials to this point. CAM survey negative
1110 Rob reported that he is moving to L2 in order to attack the "y" junction in trenches L1 and L2.
1112 digging re-commences at the Y
1115 Delta 2 reports that they are recovering plastics, metals, and other typical dump site materials.
1115 Andrew (contractor leader, to trailer)
1130 Delta 1 (Ken) going to Connaught for early lunch (meeting at 12: 00)
1131 Jim, Rob, Chris return from site, Gary to site to conduct Rad Survey in accordance with protocol.
1132 Contractors briefed are to their responsibilities on site and the Do's and Don'ts (Ken)
1135 Rob, Chris and Ken to Lunch
1140 RAD survey complete. All readings at background
1145 Gary repairs Camera that fell on the ice
1150 Robina and Erik to site for sampling run
1205 Gary to lunch
1205 Ken to meeting at range control
1215 Chris to site with Camera
1220 Jim to trailer for lunch
1225 Andre and Pat told to continue to fill in Trench (L3) until Rob gets back on site to dig
1227 Chris, Robina and Erik back to the trailer
1230 Gary back at trailer from lunch
1235 Rob and Jim preparing to go down range to begin digging
1243 Jim and Rob to site
1245 Robina and Erik to lunch
1250 Rob is going to dig (L1) and (L2) in conjunction and will continue with (l3) when he gets back far enough
1252 Backhoe coming off site due to leak in tire and will go to range control to have it fixed
1253 Digging commenced but was suspended when Mike and Chris (Levac) came down to the site
1254 Digging started again
1308 Camera moved and digging is proceeding through the base of the y (L1)(L2)
1310 CAM survey. Negative results
1320 Track hoe is through the y and is continuing on with (L1)
1323 Gary to the site. Rob expects the last part of this trench to be very slow as it is out into the roadway and the frost is a lot deeper.
1330 CAM survey. Negative results
1334 Items found at this end seems to be more domestic debris (cans bottles etc.) as well as construction material
1337 Rob attempting to break the ice causing mini earthquake around site
1345 CAM survey. Negative results
1400 DRES digging completed. We have gone as far as we can without disturbing the road and will wait until sampling is done before filling in the last of the trenches
1401 Mike called to get hold of Robina and Erik for sampling
1409 Jim and Rob to the trailer
1410 Mike, Paul Bois, MWO Courtemanche, and Chris (Levac) on site
1415 Robina and Erik at trailer
1422 Gamma survey indicated all at background
1425 A&B readings are at background
1426 Visitors are back at the trailer and leaving the site
1428 Ken and Jim to site with mine detector to check
1435 Erik and Robina to site to take samples
1455 Sampling basically finished and Rob and Andre and Pat are going down to the site to start filling in trenches (L1), (L2) and what is left of (L3) and (L4).
1500 Robina, Erik and Chris (Levac) back at trailer
1504 Back filling of pits beginning
1506 Ken back at trailer
1535 (L4) and (L3) are filled in (L2)is almost filled and (L1)about 15 minutes from being completed
1550 RAD survey at Background and CAM results in H and G were negative
1555 site shut down for the day

Project CLEAR

February 11, 2001

0900 All personnel at range control
0901 Meeting at Range Control to discuss days work. Test pits will be dug to find the extent of the dump site.
0930 all personnel arrive at trailer
0935 Rob to site to warm up track hoe
1020 Rob starts dig, Chris is observer
1025 O'Connell and Boyies arrive at trailer, dicuss EA and dig locations with contractors, no problems.
1030 Wire cutters to site to cut hole in snow fence
1035 First hole by Rob at west end of site with no signs of garbage or construction material (Designated Test Pit 1 by contractors)
1036 First hole by back hoe (Garry is observer), 5 meters east of L3, finds construction material at depth of 1 meter
1040 Contractors proceed to site to take samples in Test Pit 1
1045 Second hole made by Rob, no sign of garbage or construction material (Designated Test Pit 2 by contractors)
1046 Second hole by back hoe 3 meters further east, construction material at 1 meter
1050 Third hole by Rob is inside the fence on east side of site, found construction material at 1 meter
1055 Third hole by back hoe, approx 10 meters from east end of L3, found construction material at 1 meter, tree roots were above the construction material
1100 Forth hole by Rob is 15 meters further east (now outside snow fence), oil drum at depth of 4 feet
1105 Fifth hole by Rob is 5 meters east of hole 4, construction material (brick and metal) at 3 feet
1110 Forth hole by back hoe is a new line north east of site, construction material at 1 foot
1115 Sixth hole by Rob, 3 meters east of Hole 5, no sign of garbage or construction material (Designated Test Pit 4 by contractors)
1125 Visit to site by Gardiner O'Connell and Courtemanche to view dig sites
1130 Discussion with persons at previous bullet regarding holes already dug – no problems, and agreement on holes to be dug after lunch.
1145 Break for lunch
1254 Seventh hole by Rob, north/west end of site inside the snow fence, large blocks of cement and other construction material at 1 meter (Designated Test Pit 3 by contractors)
1300 Pirie, O'Connell ,Gardiner, Courtemanche visit site
1301 Contractors to site to take samples from Hole 6 (designated as Test Pit 3 by contractors)
1305 Eighth hole by Rob, north end of site inside the snow fence, large blocks of cement and other construction materials at 1 meter
1320 Ninth hole by Rob north/east end of site 6 meters outside the snow fence, construction materials at 1 meter
1325 Tenth hole by Rob north/east end of site 6 meters from ninth hole, garbage at surface.
1330 Eleventh hole by Rob north/east end of site 10 meters from tenth hole, garbage and construction material at surface (Designated Test Pit 5 by contractors)
1340 Contractors depart site with water and soil samples from 5 test pits
1400 Visitors depart site
1410 All holes are back filled by Rob.
1420 Site closed
1430 Team departs Connaught

ANNEX B

HAPSITE GC\MS RESULTS

Project CLEAR

Hapsite GC\MS Results

AGENTS 1 and 2.

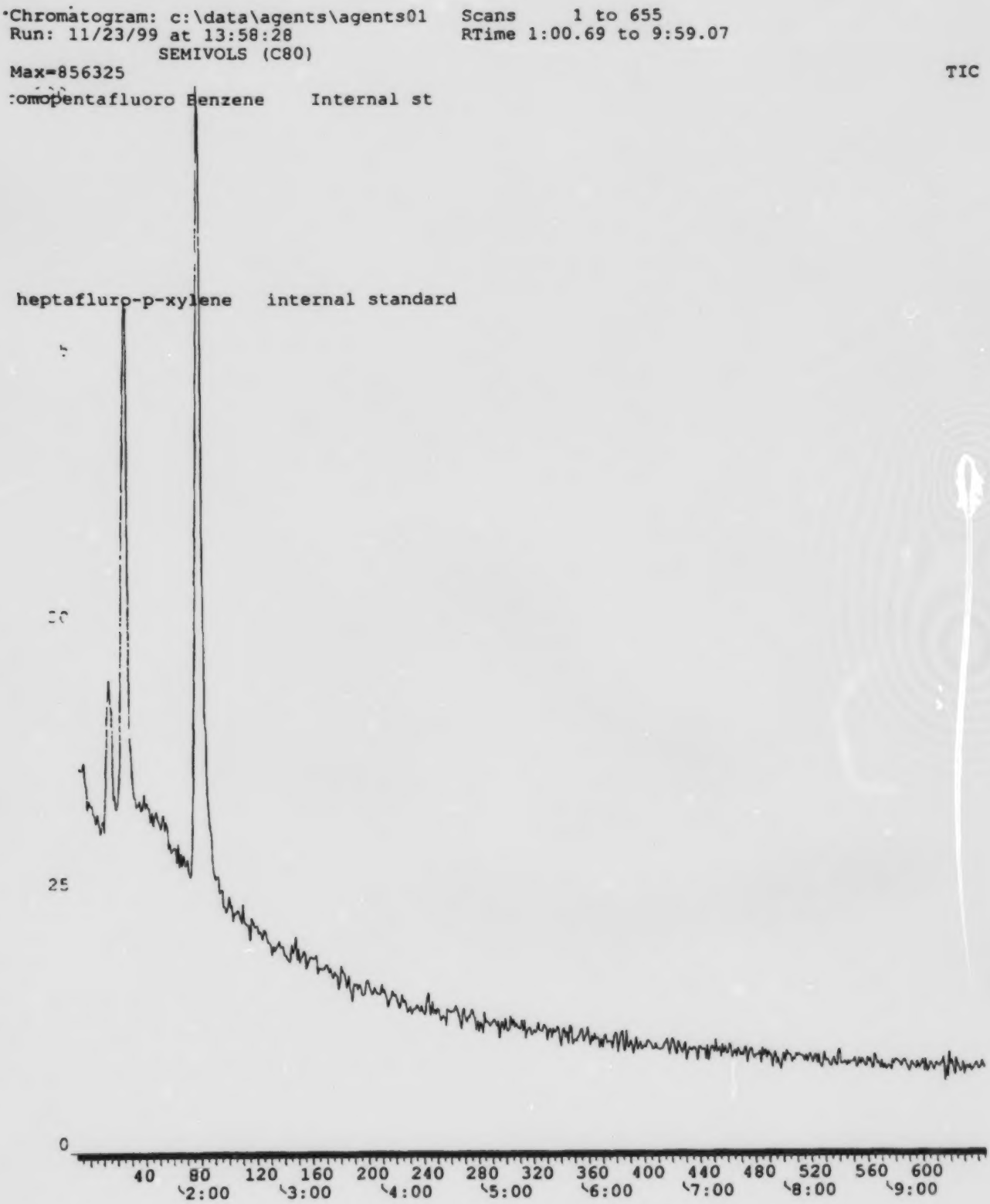
1. The peaks noted are from the internal standards; there are no other material spectra present.

2. Analytical results obtained from samples recorded as Agent 1 and Agent 2 respectively were taken from PIT L4.

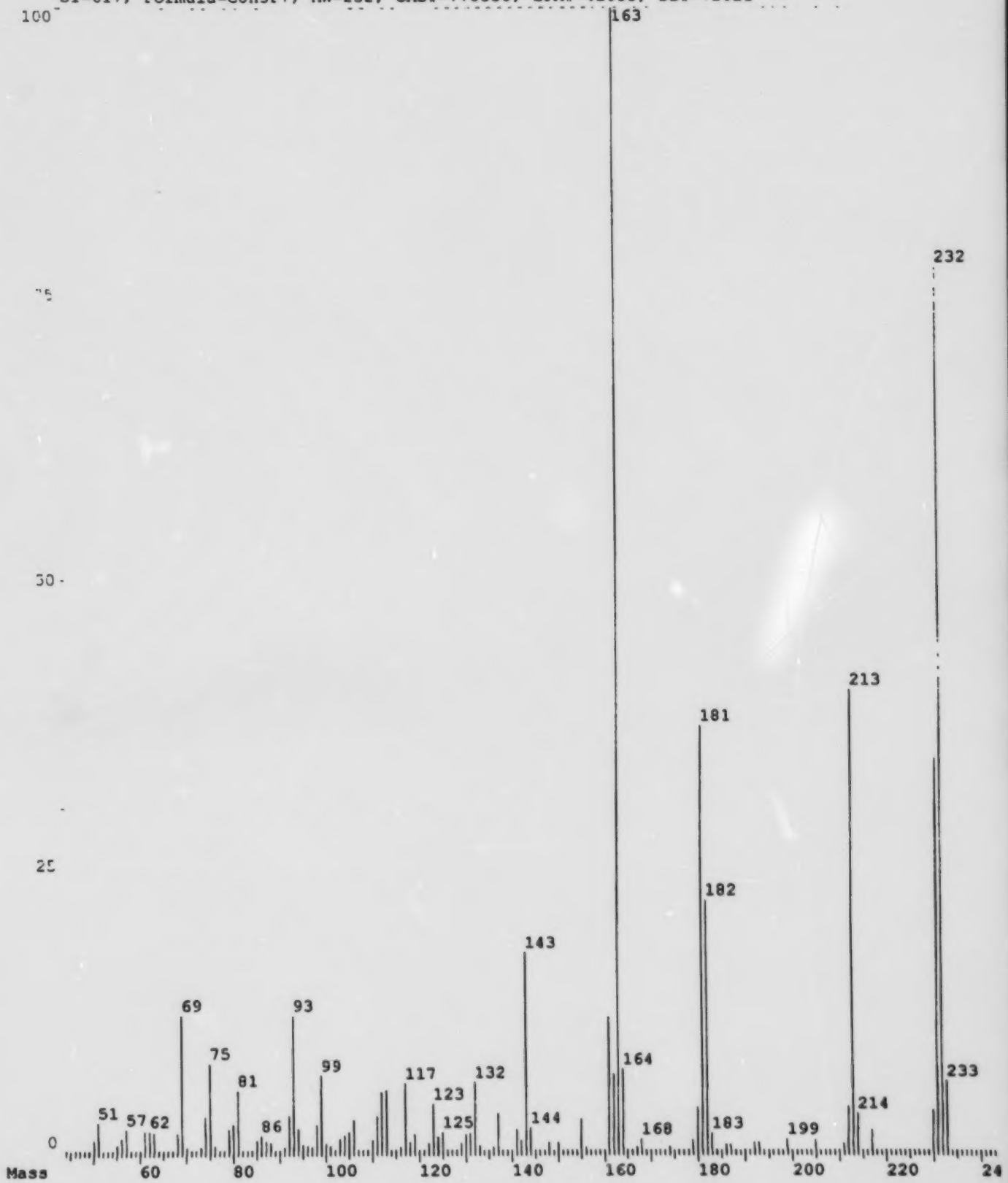
3. The sample recorded as Agent 3 was taken from PIT L3; the sample was recovered from an area close to the end of the excavation where there a strong hydrocarbon odor was evident. Hydrocarbons tend to be masked in the internal standards, however Benzene spectra was isolated from the Heptafluro-p-xylene peak.

4. The sample recorded as Agent 4 was unreadable.

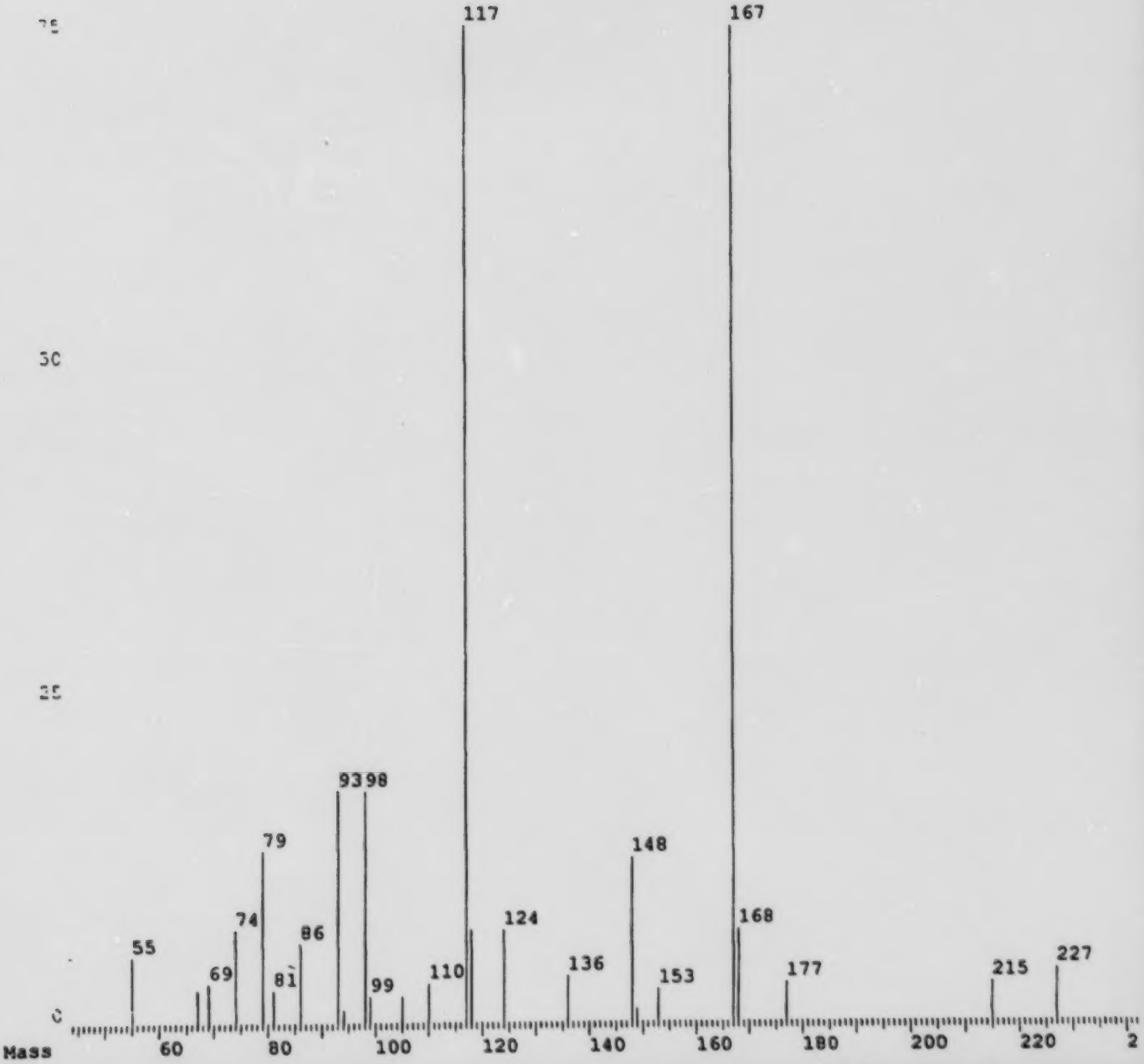
5. The sample recorded as Agent 5 was a repeat of sample 4 and is described as a tar like substance removed from PIT L3. There is evidence of Cloroethanol and Hexa fluorhexa-2,4-diyne in two separate peaks neither in great quantity.

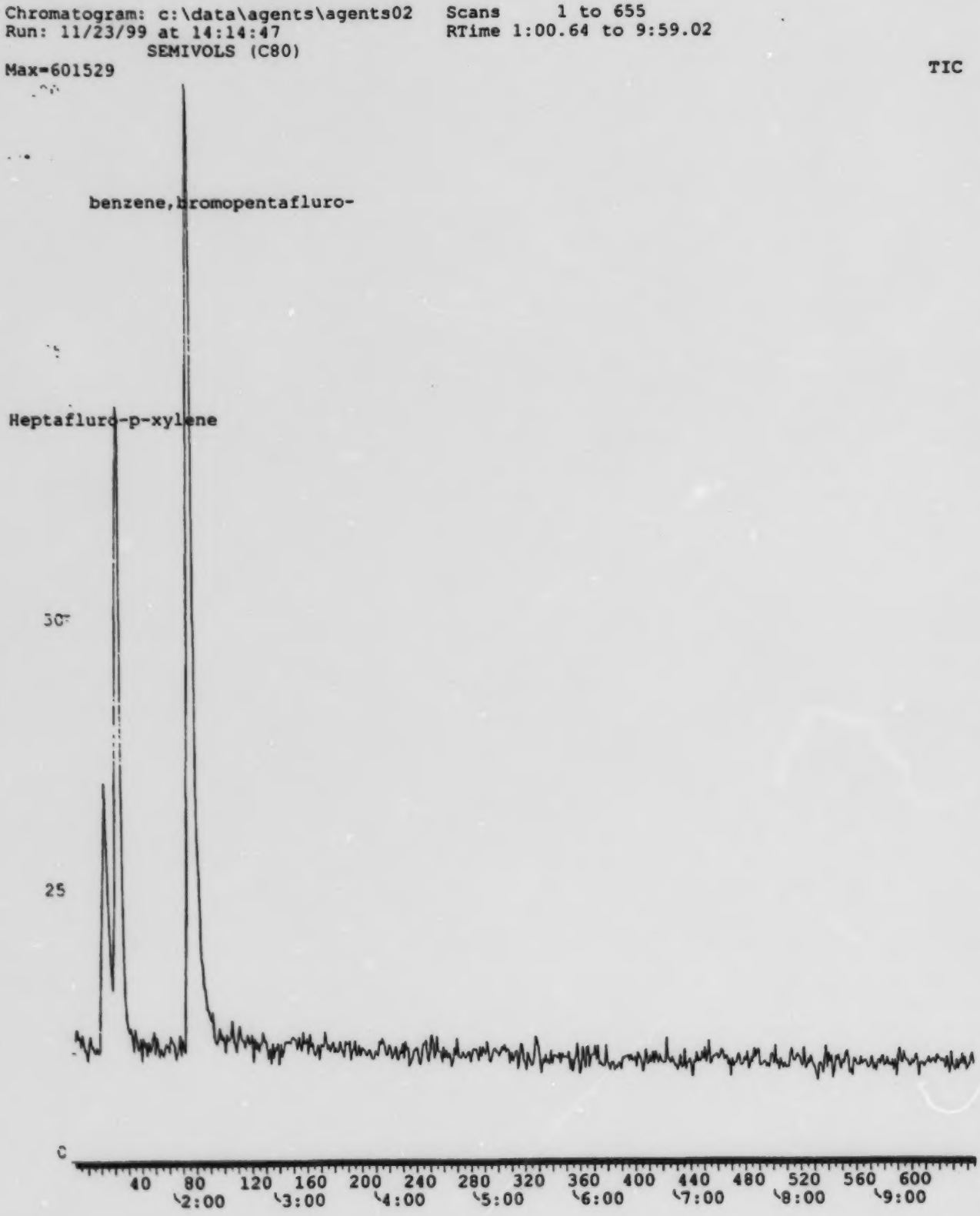

Chromatogram: c:\data\agents\agents01 Scans 1 to 655
Run: 11/23/99 at 13:58:28 RTime 1:00.69 to 9:59.07
SEMIVOLS (C80)
Max=856325
TIC
omopentafluoro Benzene Internal st
heptafluro-p-xylene internal standard
0
40 80 120 160 200 240 280 320 360 400 440 480 520 560 600
2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00

NIST hit #1 of 100; 1.0 m/z; à,à,à,2,3,5,6-Heptafluoro-p-xylene
NIST hits of S[33]B[28] AGENTS01 Run: 11/23/99 at 13:58:28
SEMIVOLS (C80)
SI=617; Formula=C8H3F7; MW=232; CAS#=778358; EPA#=42053; DB#=72021



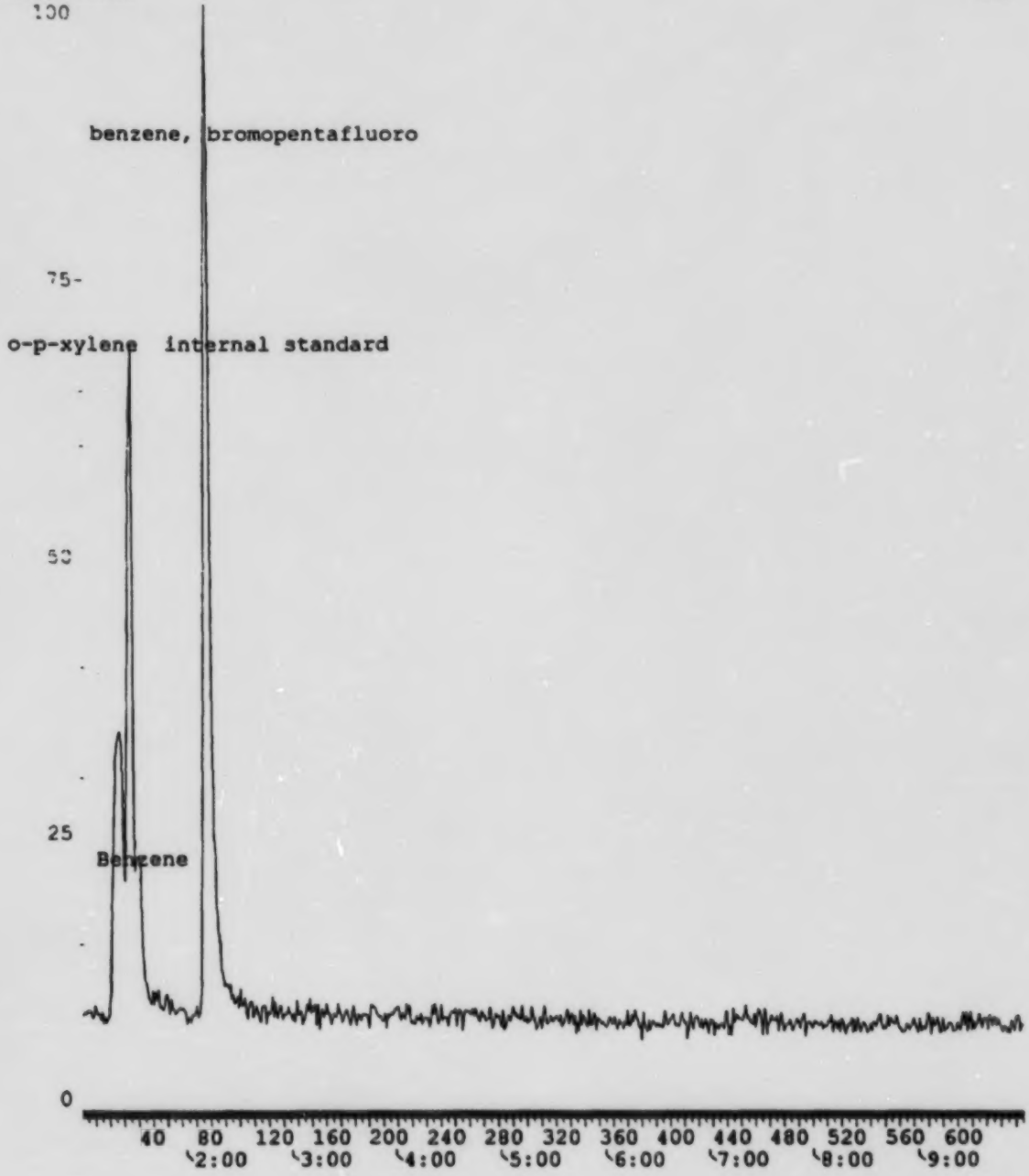
NIST hit #1 of 100; 1.0 m/z; Benzene, bromopentafluoro-
NIST hits of S[86]B[81] AGENTS01 Run: 11/23/99 at 13:58:28
SEMIVOLS (C80)
SI=724; Formula=C6BrF5; MW=246; CAS#=344047; EPA#=11960; DB#=92548

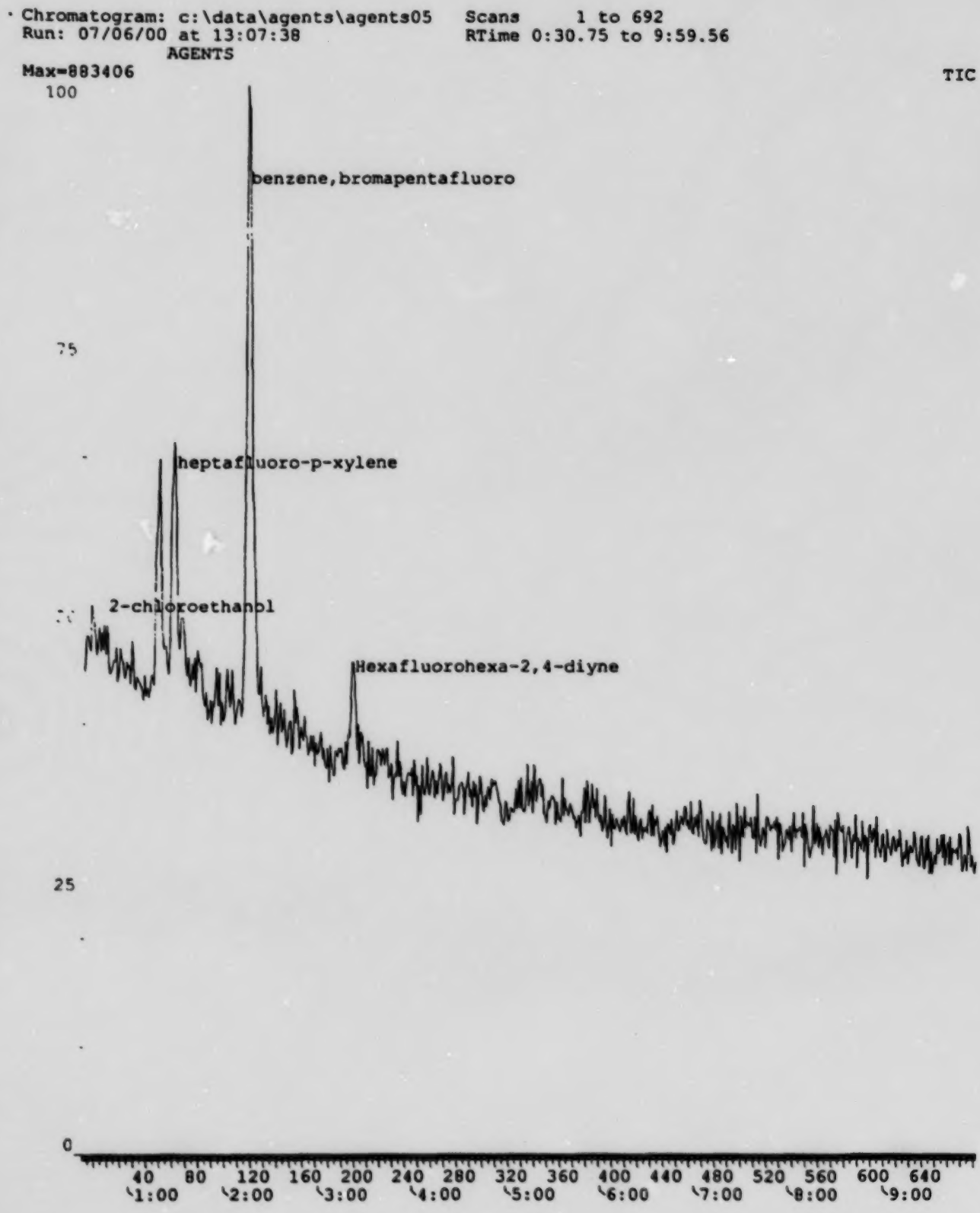



Chromatogram: c:\data\agents\agents02
Run: 11/23/99 at 14:14:47
SEMIVOLS (C80)
Scans 1 to 655
RTime 1:00.64 to 9:59.02
Max=601529
TIC
benzene,bromopentafluro-
Heptafluro-p-xylene
30
25
0
40
80
120
160
200
240
280
320
360
400
440
480
520
560
600
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00

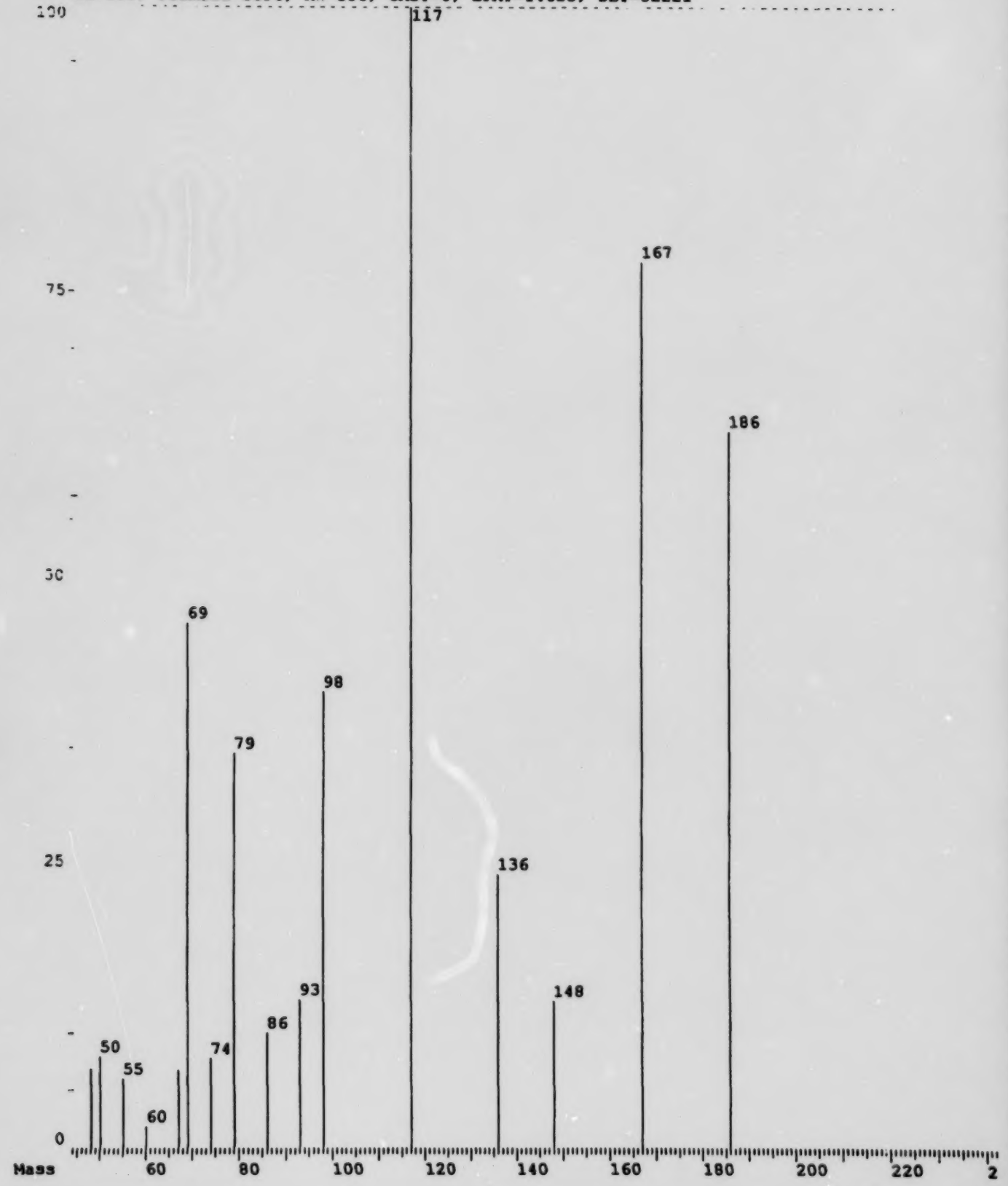
NIST hit #1 of 100; 1.0 m/z; Benzene
NIST hits of S[40]B[37] AGENTS03 Run: 11/23/99 at 14:26:33
SEMIVOLS (C80)
SI=822; Formula=C6H6; MW=78; CAS#=71432; EPA#=48852; DB#=30179

Chromatogram: c:\data\agents\agents03 Scans 1 to 655
Run: 11/23/99 at 14:26:33 RTime 1:00.64 to 9:59.02
SEMIVOLS (C80)
Max=583811 TIC

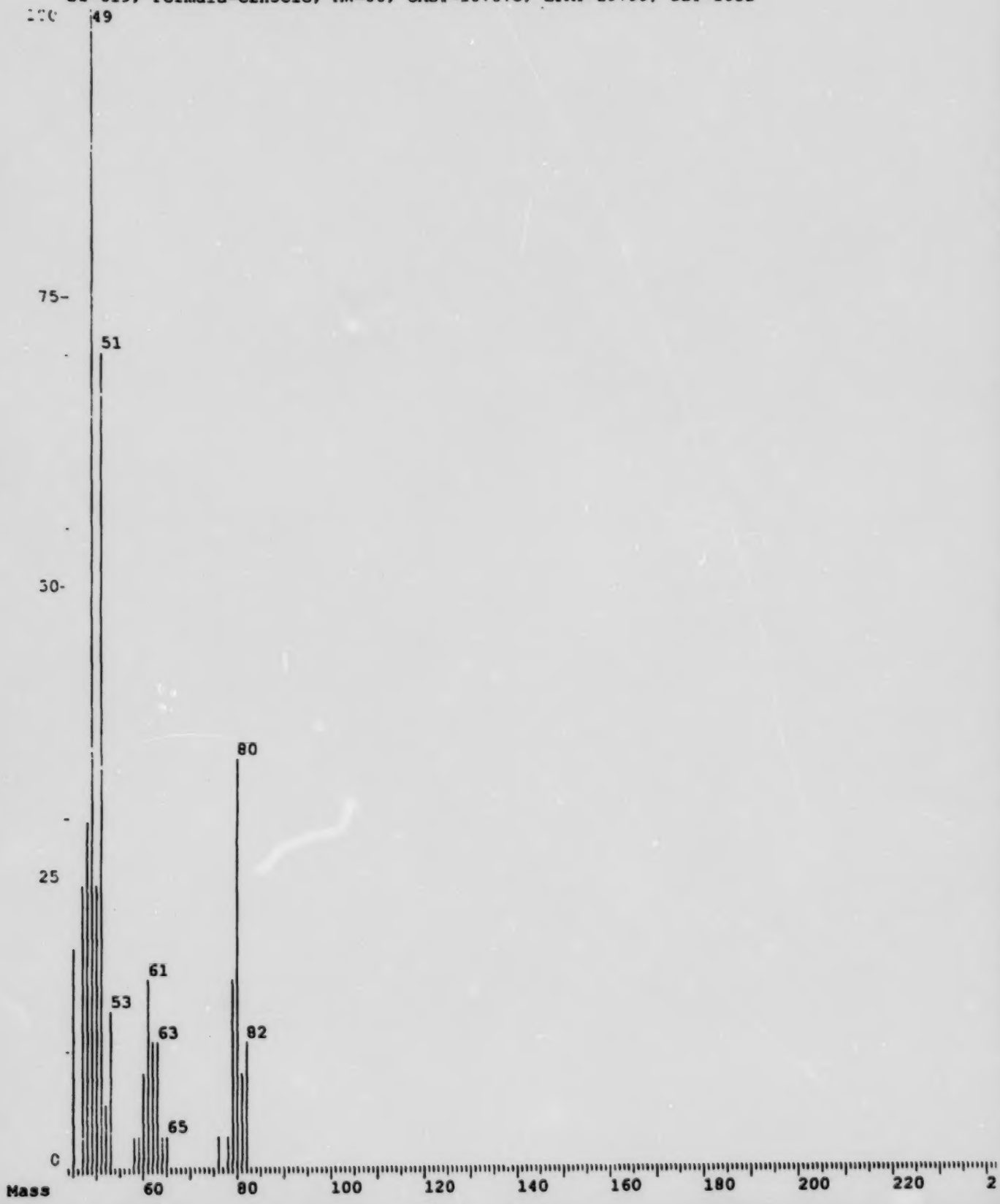



Chromatogram: c:\data\agents\agents05 Scans 1 to 692
Run: 07/06/00 at 13:07:38 RTime 0:30.75 to 9:59.56
AGENTS
Max=883406
TIC
100
75
25
0
benzene,bromapentafluoro
heptafluoro-p-xylene
2-chloroethanol
Hexafluorohexa-2,4-diyne
40 80 120 160 200 240 280 320 360 400 440 480 520 560 600 640
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00

NIST hit #1 of 100; 1.0 m/z; Hexafluorohexa-2,4-diyne
NIST hits of S[207]B[204] AGENTS05 Run: 07/06/00 at 13:07:38
AGENTS
SI=503; Formula=C6F6; MW=186; CAS#=0; EPA#=14623; DB#=52221



NIST hit #1 of 100; 1.0 m/z; 2-Chloroethanol
Normalization Mass: 49; NIST hits of S[75]B[72] AGENTS05 Run: 07/06/00 at 13:07:38
AGENTS
SI=619; Formula=C2H5ClO; MW=80; CAS#=107073; EPA#=29799; DB#=1032



Full-Scan c:\data\agents\agents05 1.0 m/z; RTime 3:21.13
Normalization Mass: 117; Run: 07/06/00 at 13:07:38
AGENTS
Max=24399 Spectrum 208; Background 205

ANNEX C

EXECUTIVE SUMMARY

SOILS AND WATER

NEIL LEVAC ET ASSOCIÉS LTÉE
AND ASSOCIATES LTD

Gérants de projets et Ingénieurs conseils/Project Managers and Consulting Engineers

REPORTING LETTER

Our File Ref: 01030

February 26, 2001

Attn: **Mr. Ken Pirie**
Field Technical Manager, Explosive Systems
Defence Research Establishment Suffield

RE: **Project CLEAR – Observations and Analytical Results**
Preliminary Findings

Mr. Pirie:

As a result of our observations and the analytical results for samples obtained during the Project CLEAR intrusive investigation, please find a brief summary of our findings included in this letter. You will also find attached, in MS Excel format, a summary of the analytical results for soils and groundwater.

Trenches

The four trenches excavated contained various forms of debris, including construction debris, scrap metal, paint, and material of a petroleum hydrocarbon nature. All trenches were found to contain various parameters in excess of MOE and CCME criteria for water. The soil samples obtained from the trenches did not reveal contamination to the same extent as that contained in the water. Some areas of concern include various metals (eg. lead, arsenic, copper), petroleum hydrocarbon, and polycyclic aromatic hydrocarbon (PAH) contamination.

Test-Pits

The test-pit excavations did not determine the outer extent of the landfill footprint, and with the exception of TP-1, TP-2 and TP-4, the test-pits contained what appeared to be mostly construction and metal debris, similar to that what was found in the excavation of the trenches. All test pits were found to contain various parameters in excess of MOE and CCME criteria for water. The soil samples obtained from the test pits did not reveal contamination to the same extent as that contained in the water. Some areas of concern include the concentrations of copper, lead and mercury found in Test-Pit 4, which exceed CCME guidelines.

/...2

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☐ 170, rue Broadway East/est, Gatineau, Québec, J8P 3V3 Tel (819) 663-1639

Presently, we do not feel that the situation that exists at the Shirley's Bay landfill site requires immediate remedial action, especially as the landfill has been in existence for over 30 years. In addition, due to the present time constraints and the proximity of spring, there is a risk that any remedial excavation operations may be impacted by a spring thaw. This would put the site at risk for potential flooding and the potential release or leaching of contaminants into Shirley's Bay. Finally, the footprint of the landfill is still unknown, as the test-pits did not provide conclusive evidence that the outer extent was reached. The overall size of the landfill may prove to be much larger than originally estimated.

The real problem present at the site is a groundwater issue. For the time being we recommend the installation of additional monitoring wells and the continuous monitoring of the existing wells to determine if leaching from the landfill is occurring or occurs. In addition, because we have seen obvious groundwater contamination, we recommend testing occur within the river at some point in the future.

Please note that the above is based on our observations at the site, test-pit locations, and the chemical analysis from samples taken during the investigation.

Should you or any of your colleagues have any questions or concerns please feel free to contact the undersigned.

Sincerely,

Neil A. Levac Engineering Ltd.

Christian Robichaud,
Project Manager

Attachments (1): Lab Analysis Results (***Lab Analysis Results.xls***)

Cc. Tina Hearty-Drummond, PWGSC
Mike O'Connell, PWGSC

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☐ 170, rue Broadway East/est, Gatineau, Québec, J8P 3V3 Tel (819) 663-1639

Parameter	MDL	MOE Table A	CCME	Sample ID							
	ug/g	Residential/Parkland Land Use (ug/g)	Interim Guidelines (mg/kg)	TP-2	TP-1	TP-3	TP-4	TP-5	T1-4	T2-2	T3-3
Antimony	1 0	13		<1.0	<1.0	<1.0	<1.0	<1.0	10	1	72
Arsenic	1.0	20	12	<1.0	<1.0	<1.0	2	<1.0	11	1	11
Barium	10.0	750		150	170	200	120	110	940	150	460
Beryllium	0.5	1.2		<0.50	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	1.0	12	10	<1.0	<1.0	<1.0	4	<1.0	<1.0	<1.0	<1.0
Calcium	200.0	n/v		13000	9200	22000	8400	7200	58000	17000	23000
Chromium	5.0	750	64	30	35	35	75	30	60	10	45
Cobalt	5.0	40		10	10	10	5	5	5	<5.0	20
Copper	5.0	225	63	20	20	20	80	15	230	25	480
Iron	200.0	n/v		18000	24000	22000	19000	14000	90000	9400	56000
Lead	5.0	200	140	10	10	40	150	<5.0	5400	270	12000
Magnesium	200.0	n/v		9400	9400	12000	5000	5800	2800	3000	4000
Molybdenum	1.0	40		<1.0	<1.0	<1.0	<1.0	<1.0	6	<1.0	2
Nickel	5.0	150		15	20	20	25	15	45	5	20
Selenium	1.0	10		<1.0	<1 0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	5.0	20		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Sodium	200.0	n/v		1000	1000	1000	400	800	600	400	800
Thallium	1.0	4.1		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tin	5.0	n/v		<5.0	<5.0	<5.0	20	<5.0	1500	35	160
Vanadium	10.0	200	130	40	50	40	40	30	<10	10	20
Zinc	20.0	600	200	60	60	80	120	40	980	80	920
Mercury	0.2	10	6.6	<0.2	<0.2	<0.2	0.60	<0.2	0.60	<0.2	0.60
Boron (available)	1.5	1.5		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Hexavalent Chromium	0.1	n/v		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (gas)	10.0	100		<10	<10	<10	<10	<10	<10	<10	110
TPH (diesel)	10.0	100		<10	<10	<10	<10	<10	60	20	1400
TPH (heavy oils)	50.0	1000		<50	<50	100	250	<50	200	<50	5000
Benzene	0.0020	0.24	0.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bromodichloromethane	0.0020	0.12		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bromoform	0.0020	0.11		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bromomethane	0.0020	0.061		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030

P515682.PDF [Page: 40 of 95]

Project CLEAR
Connaught Ranges and Primary Training Centre
Intrusive Investigation

NAL File: 01030

Parameter	MDL	MOE Table A	CCME	Sample ID							
	ug/g	Residential/Parkland Land Use (ug/g)	Interim Guidelines (mg/kg)	TP-2	TP-1	TP-3	TP-4	TP-5	T1-4	T2-2	T3-3
Carbontetrachloride	0.0020	0.1		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Chlorobenzene	0.0020	2.4		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Chloroethane	0.0050	n/v		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chloroform	0.0030	0.13		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0 0030
Chloromethane	0.0150	n/v		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0 015	<0.015
Dibromochloromethane	0.0020	0.09		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,2-Dibromoethane	0.0020	n/v		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
m-Dichlorobenzene	0.0020	30		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
o-Dichlorobenzene	0.0020	0.88		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0 0020	<0.0020
p-Dichlorobenzene	0.0020	0.32		<0.0020	<0.0020	<0.0020	<0.0020	<0 0020	<0.0020	<0.0020	<0.0020
1,1-Dichloroethane	0.0020	3		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,2-Dichloroethane	0.0020	0.022		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1-Dichloroethylene	0.0020	0.0024		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0 0020	<0.0020	<0.0020
c-1,2-Dichloroethylene	0.0020	2.3		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
t-1,2-Dichloroethylene	0.0030	4.1		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0 0030	<0.0030	<0.0030
1,2-Dichloropropane	0.0020	0.019		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
c-1,3-Dichloropropene	0.0020	0.0066		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
t-1,3-Dichloropropene	0.0020	n/v		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ethylbenzene	0.0020	0.28	1.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.400
Methylene Chloride	0.0200	1.1		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Styrene	0.0020	1.2		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,2,2-Tetrachloroethane	0.0030	0.01		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Tetrachloroethylene	0.0020	0.45	0.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Toluene	0.0020	2.1	0.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.500
1,1,1-Trichloroethane	0.0020	26		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,2-Trichloroethane	0.0020	0.28		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Trichloroethylene	0.0030	1.1	3	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Trichlorofluoromethane	0.0050	n/v		<0 0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	0.0030	n/v		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	8.000
Vinyl Chloride	0.0020	0.003		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
m/p-Xylene	0.0020	25		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	2.700
o-Xylene	0.0020	25		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.300

Project CLEAR
Connaught Ranges and Primary Training Centre
Intrusive Investigation

NAL File. 01030

Parameter	MDL	MOE Table A	CCME	Sample ID							
	ug/g	Residential/Parkland Land Use (ug/g)	Interim Guidelines (mg/kg)	TP-2	TP-1	TP-3	TP-4	TP-5	T1-4	T2-2	T3-3
Acenaphthene	0.017	15		<0.017	<0.017	<0.017	<0.017	<0.017	0.250	<0.017	<0.017
Acenaphthylene	0.017	100		<0.017	<0.017	0.120	<0.017	<0.017	0.710	0.0170	<0.017
Anthnracene	0.017	28		<0.017	<0.017	0 120	<0.017	<0.017	4.400	0.0660	3.300
Benzo(a)anthracene	0.017	6.6		0 017	<0.017	0.210	0.120	<0.017	7.900	0.1500	5.000
Benzo(a)pyrene	0.017	1.2		<0.017	<0.017	1.000	0.120	<0.017	14.000	0.1500	<0.017
Benzo(b+k)fluoranthene	0.033	12		<0.033	<0.033	0.690	0.170	<0.033	17.000	0.2600	6.600
Benzo(ghi)perylene	0.017	40		<0.017	<0.017	0.180	0.099	<0.017	3.100	0.0990	<0.017
Biphenyl	0.017	n/v		<0.017	<0 017	<0.017	<0.017	<0.017	0.033	0.0330	<0.017
Chrysene	0.017	12		<0.017	<0.017	0.250	0.250	<0.017	6.800	0.1300	3.300
Dibenzo(a,h)anthracene	0.017	1.2		<0.017	<0.017	0.066	0.050	<0.017	2.000	0.0500	<0.017
Fluoranthene	0.017	40		<0.017	<0.017	0.430	0.050	<0.017	14.000	0.2600	9.900
Fluorene	0.017	340		<0.017	<0.017	<0.017	<0.017	<0.017	0.560	0.0170	<0.017
Indeno(1,2,3-cd)pyrene	0.017	12		<0.017	<0.017	0.150	0.033	<0.017	4.000	0.1200	<0.017
1-Methylnaphtalene	0.017	1.2		<0.017	<0.017	<0.017	0.066	<0.017	0.033	<0 017	<0.017
2-Methylnaphtalene	0.017	1.2		<0.017	<0.017	<0.017	0.170	<0.017	0.066	0.0170	3.300
Naphtalene	0.017	4.6	0.6	<0.017	<0.017	0.990	0.083	<0.017	0.410	0.2800	41.000
Phenanthrene	0.017	40		<0.017	<0.017	0.280	0.050	<0 017	7.600	0.1700	6.600
Pyrene	0.017	250		<0.017	<0.017	0.360	0.210	<0.017	11.000	0.2000	8.300

Exceeding MOE Table A Criteria for Residential/Parkland Use
Exceeding MOE Table A & CCME Guidelines
Exceeding CCME Guidelines

ANNEX D

CONTRACTOR

SOILS AND WATER ANALYSIS REPORT

02/12/01 MON 12:22 FAX 819 775 4560 PWGSC/CSU #1 DND 001
613 592 5995
FEB-12-2001 11:44 F NSON CONSULTANTS INC. 613 592 5995 P.01/09

Copy's To Chris & John & Ken

Robinson Consultants

FAX COVER SHEET

Robinson Consultants Inc.
Consulting Engineers

350 Palladium Drive
Kanata, Ontario, Canada K2V 1A8

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☐ FACSIMILE ONLY
☐ ORIGINAL TO FOLLOW

TO:	Lori Macadam/Tony Gariano	DATE.	February12, 2001
FAX#:	775-7428	PROJECT:	Connaught Monitoring
COMPANY.	PWGSC	FILE #:	B01004
LOCATION:	National Capital Region	FROM:	Andrew Buzza

MESSAGE: Lon/Tony
Here are the results from the monitoring. The list is partial, with the PAH's and selected inorganics to follow. Also provided is a sketch with the numbering sequence.

Please call me if you have any questions

Regards,

Andrew

Feuillet de transmission par télécopieur Post-it™ Fax Note 7671	Date / # of pages ▶
To / À Mike O'Connell	From / De Lori Macadam
Co./Dept. / Cie/Service	Co. / Cie
Phone # / N° de tél. 991 5740	Phone # / N° de tél. 229 4122
Fax # / N° de télécopieur 998 4912	Fax # / N° de télécopieur

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ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: Robinson Consultants Inc.

ATT: Mr. Andrew Buzza

Report Number: Partial Report
Date: 2101006
Date Submitted: 2001-02-09
Date Collected: 2001-02-02
Project: 2001-02-02
P.O. Number: 1902-09-30
Matrix: Water

PARAMETER	UNITS	MDL	110727 Well #2	110728 Well #3	110729 Well #4	110730 Well #5	110731 Well #6 QA/QC #5
BTEX / 624 / PURGEABLE HYDROCARBONS							
Benzene	µg/L	0.5	13.4	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	1.3	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	3.3	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	µg/L	1.0	145	<1.0	<1.0	<1.0	<1.0
o-Xylene	µg/L	0.5	2.8	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromoform	µg/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.9	<0.9	<0.9	<0.9	<0.9	<0.9
Monochlorobenzene	µg/L	0.2	12.7	<0.2	<0.2	<0.2	<0.2
Chloroethane	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
1,2-Dibromoethane	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	µg/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene	µg/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	0.4	0.8	<0.4	<0.4	<0.4	<0.4
1,1-Dichloroethane	µg/L	0.4	<0.4	<0.4	<0 4	<0.4	<0.4
1,2-Dichloroethane	µg/L	0.7	<0 7	<0.7	<0.7	<0.7	<0.7
1,1-Dichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
c-1,2-Dichloroethylene	µg/L	0.4	0.8	1.9	<0.4	<0.4	<0.4
t-1,2-Dichloroethylene	µg/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloropropane	µg/L	0.7	<0.7	<0.7	<0.7	<0.7	<0 7
c-1,3-Dichloropropylene	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
t-1,3-Dichloropropylene	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichloromethane	µg/L	4.0	<4.0	<4.0	<4.0	<4.0	<4 0
Styrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	µg/L	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

MDL = Method Detection Limit INC = Incomplete

Comment: PAH, Acrolein, and Acrylonitrile results will follow.

APPROVAL:

ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: Robinson Consultants Inc.

ATT: Mr. Andrew Buzza

Report Number: Partial Report
Date: 2101008
Date Submitted: 2001-02-09
Date Collected: 2001-02-02
Project: 2001-02-02
P.O. Number: 1902-09-30
Matrix: Water

PARAMETER	UNITS	MDL	110727 Well #2	110728 Well #3	110729 Well #4	110730 Well #5	110731 Well #6 QA/QC ES
1,1,2,2-Tetrachloroethane	µg/L	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Tetrachloroethylene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
1,1,1-Trichloroethane	µg/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	µg/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Trichloroethylene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Trichlorofluoromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	µg/L	0.3	14.2	0.9	<0.3	<0.3	<0.3
Vinyl Chloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethyl vinyl ether	µg/L	10	<10	<10	<10	<10	<10
BTEX / 624 Surrogate Recoveries							
Toluene-d8	%		103	98	98	98	98
1,2-Dichloroethane-d4	%		98	98	98	98	98
4-Bromofluorobenzene	%		119	100	100	100	100
EXTRACTABLE HYDROCARBONS							
GRO (<C10)	mg/L	0.2	0.5	<0.2	<0.2	<0.2	<0.2
DRO (C10-C24)	mg/L	0.2	<0.2	0.3	0.2	<0.2	<0.2
TPH AND HEAVY OILS							
GRO + DRO	mg/L	0.2	0.5	0.3	0.2	<0.2	<0.2
Oil & Grease - Mineral	mg/L	1	2	1	<1	<1	<1
TOTAL PCB							
PCBs	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

MDL = Method Detection Limit INC = Incomplete

Comment: PAH, Acrolein, and Acrylonitrile results will follow.

APPROVAL:

ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: Robinson Consultants Inc.

ATT: Mr. Andrew Buzza

Report Number: Partial Report
Date: 2101006
Date Submitted: 2001-02-09
Date Collected: 2001-02-02
Project: 2001-02-02
P.O. Number: 1902-09-30
Matrix: Water

PARAMETER	UNITS	MDL	110727 Well #2	110728 Well #3	110729 Well #4	110730 Well #5	110731 Well #6 QA/QC ✓
ORGANOCHLORINE COMPOUNDS							
Aldrin	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC (Lindane)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDD	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDE	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDT	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

MDL = Method Detection Limit INC = Incomplete

Comment: PAH, Acrolein, and Acrylonitrile results will follow.

APPROVAL:

ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: Robinson Consultants Inc.

ATT. Mr. Andrew Buzza -

Report Number: 2101006
Date: 2001-02-12
Date Submitted: 2001-02-02
Date Collected: 2001-02-02
Project: 01004

P.O. Number:
Matrix: Water

PARAMETER	UNITS	MDL	110727 Well #2	110728 Well #3	110729 Well #4	110730 Well #5	110731 Well #6 QA/QC #5
Ag	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Al	mg/L	0.05	0.10	<0.05	<0.05	<0.05	<0.06
Alkalinity as CaCO3	mg/L	5	865	440	257	269	285
As	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
B	mg/L	0.01	0.11	0.09	0.09	0.09	0.09
Ba	mg/L	0.01	0.78	0.18	0.11	0.15	0.16
Be	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ca	mg/L	2	155	83	44	51	50
Cd	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cl	mg/L	1	41	36	13	11	11
Co	mg/L	0.0002	0.0007	0.0005	<0.0002	0.0002	0.0002
COD	mg/L	4	64	18	<4	10	15
Conductivity	uS/cm	5	1250	904	584	589	590
Cr	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cu	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fe	mg/L	0.01	42.4	0.94	0.05	0.31	0.31
Hardness as CaCO3	mg/L	1	540	401	225	251	248
Hg	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
K	mg/L	1	8	6	5	6	6
Mg	mg/L	1	37	47	28	30	30
Mn	mg/L	0.01	0.43	0.23	<0.01	0.06	0.06
Mo	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
N-NH3	mg/L	0.02	2.79	0.14	0.03	0.38	0.40
N-NO2	mg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
N-NO3	mg/L	0.10	<0.10	<0.10	<0.10	<0.10	0.10
Na	mg/L	2	69	41	30	22	23
Ni	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
O-PO4	mg/L	0.03	<0.03	<0.03	<0.03	<0.03	<0.03
pH			7.09	7.58	7.92	7.79	7.89
Phenols	mg/L	0.001	0.002	<0.001	<0.001	<0.001	<0.001

MDL = Method Detection Limit INC = Incomplete

Comment:

APPROVAL:

ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: Robinson Consultants Inc.

ATT: Mr. Andrew Buzza

Report Number: 2101006
Date: 2001-02-12
Date Submitted: 2001-02-02
Date Collected: 2001-02-02
Project: 01004

P.O. Number:
Matrix: Water

PARAMETER	UNITS	MDL	110727 Well #2	110728 Well #3	110729 Well #4	110730 Well #5	110731 Well #6 QA/QC ES
Si	mg/L	0.01	15.8	13.6	12.6	10.7	10.2
Sn	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SO4	mg/L	1	5	25	43	35	38
Sr	mg/L	0.003	4.48	8.18	8.47	7.59	8.31
TDS	mg/L	2	776	392	336	348	320
Ti	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Kjeldahl Nitrogen	mg/L	0.05	2.85	0.34	0.11	0.44	0.41
Tl	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
TOC	mg/L	0.3	19.2	5.6	1.5	1.9	1.7
Total P	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	0.01
V	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zn	mg/L	0.01	0.11	<0.01	<0.01	<0.01	<0.01

MDL = Method Detection Limit INC = Incomplete
Comment

APPROVAL:

ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: Robinson Consultants Inc.

ATT. Mr. Andrew Buzza

Partial Report
Report Number: 2101033
Date: 2001-02-12
Date Submitted: 2001-02-05
Date Collected: 2001-02-02
Project: 01004
P.O. Number:
Matrix: Water

PARAMETER	UNITS	MDL	110807 Well #1				
Ag	mg/L	0.0001	<0.0001				
Al	mg/L	0.05	7.84				
Alkalinity as CaCO3	mg/L	5	206				
As	mg/L	0.001	0.011				
B	mg/L	0.01	0.13				
Ba	mg/L	0.01	2.02				
Be	mg/L	0.002	<0.002				
Ca	mg/L	2	21				
Cd	mg/L	0.0001	0.0006				
Cl							
Co	mg/L	0.0002	0.0139				
COD - Chemical Oxygen Demand	mg/L	4	13				
Conductivity	uS/cm	5	400				
Cr	mg/L	0.01	0.02				
Cu	mg/L	0.001	0.004				
Fe	mg/L	0.01	62.4				
Hardness as CaCO3	mg/L						
K	mg/L	1	5				
Mg	mg/L	1	11				
Mn	mg/L	0.01	3.27				
Mo	mg/L	0.01	<0.01				
N-NO2	mg/L						
N-NO3	mg/L						
Na	mg/L	2	10				
Ni	mg/L	0.01	0.02				
O-PO4	mg/L	0.03	0.03				
pH			7.46				
Si	mg/L	0.01	16.8				
Sn	mg/L	0.01	<0.01				
SO4							

MDL = Method Detection Limit INC = Incomplete
Comment:

APPROVAL

ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: Robinson Consultants Inc.

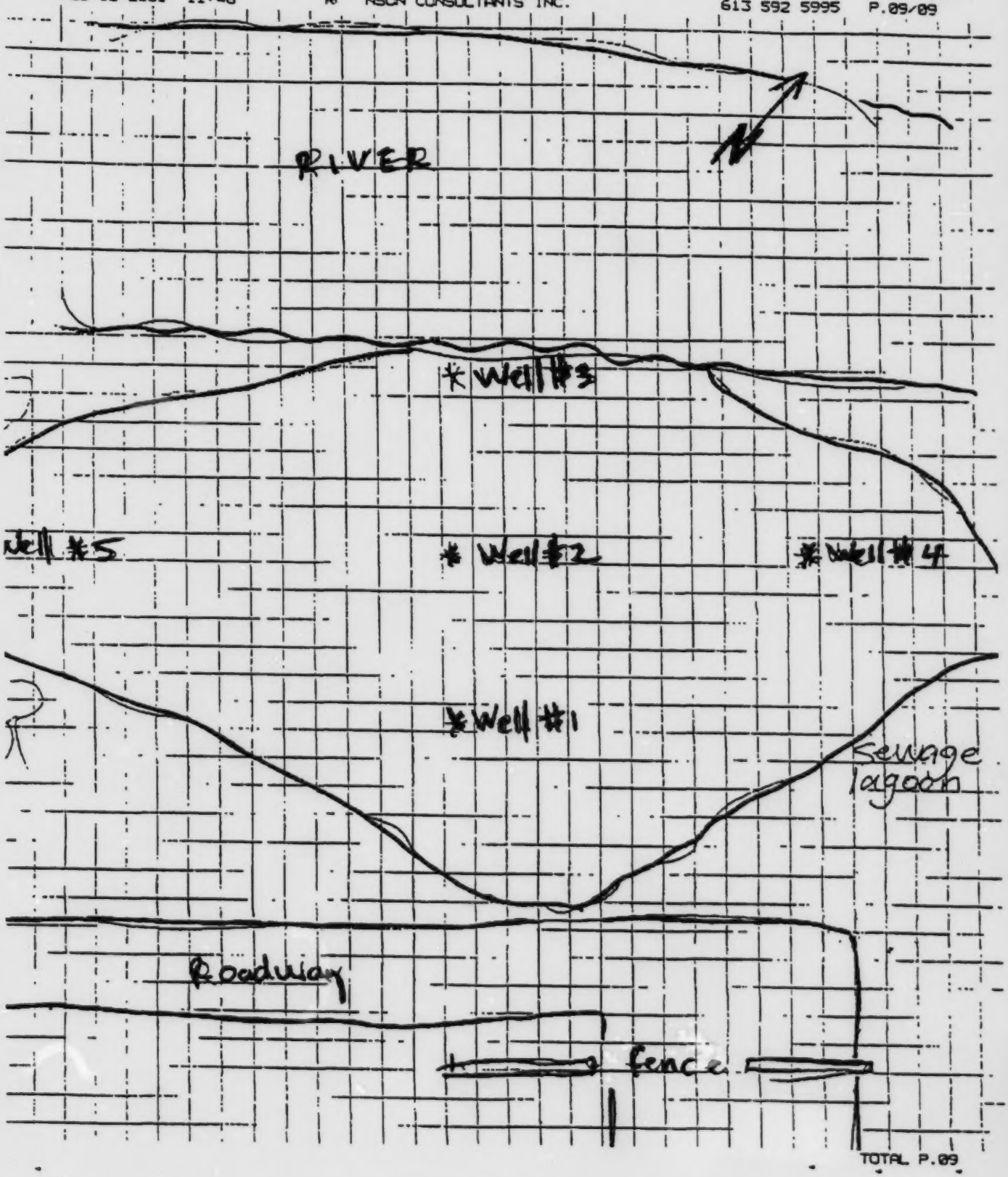
ATT. Mr Andrew Buzza

Report Number: Partial Report
Date: 2101033
Date Submitted: 2001-02-12
Date Collected: 2001-02-05
Project: 2001-02-02
P.O. Number: 01004
Matrix: Water

PARAMETER	UNITS	MDL	110607 Well #1				
Sr	mg/L	0.003	9.54				
TDS – Total Dissolved Solids	mg/L	2	136				
Ti	mg/L	0.01	0.08				
Tl	mg/L	0.001	<0.001				
V	mg/L	0.001	0.036				
Zn	mg/L	0.01	0.66				

MDL = Method Detection Limit INC = Incomplete
Comment:

APPROVAL:


RIVER
* Well #3
Well #5
* Well #2
* Well #4
* Well #1
Sewage lagoon
Roadway
fence

ANNEX E

DRES RADIATION SURVEY RESULTS

1230 PM / 420 PM

WEDNESDAY

DATE: 07 FEB

EPD #	MORNING READINGS	AFTERNOON READINGS
1	—	~~[illegible]~~
2	—	~~177~~ 174 / 17[illegible]
3	—	~~[illegible]~~ 187 / [illegible]
4	—	46 / 47
5	—	11 / 11
6	—	46 / 46
7	—	

NOTES

INITIAL SURVEY

ADM S/N 79455

CALIBRATION OK ✓

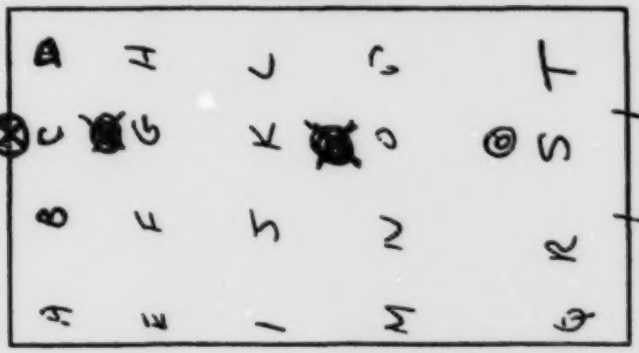
GAMMA BKGRND 0.17 - 19 (ON LOW)

A-B BACKGROUND 3.98 (ON HIGH)

LOCATION	TIME	GAMMA µSv/hr	A&B CPS
1 A	1300	0.21	4.50
2 B	"	0.20	4.10
3 C	"	0.17	4.50
4 D	"	0.18	3.83
5 E	"	0.21	4.30
6 F	"	0.14	4.30
7 G	"	0.15	4.20
8 H	"	0.18	3.89
9 I	"	0.17	4.40
10 J	"	0.19	4.71

LOCATION	TIME	GAMMA µSv/hr	A&B CPS
11 K	1300	0.14	4.02
12 L	"	0.17	3.83
13 M	"	0.19	4.03
14 N	"	0.18	4.50
15 O	"	0.19	4.95
16 P	"	0.24	3.85
17 Q	"	0.19	4.10
18 R	"	0.15	3.90
19 S	"	0.17	4.85
20 T	"	0.14	4.70

SITE MAP



RIVER

N

RAMP

- POWER POLE

EPD #	MORNING READINGS	AFTERNOON READINGS
1	~~196~~	—
2	176	176
3	189	189
4	98	98
5	12	13
6	97	47
7	—	—

DATE
Feb 08 / 2001

NOTES

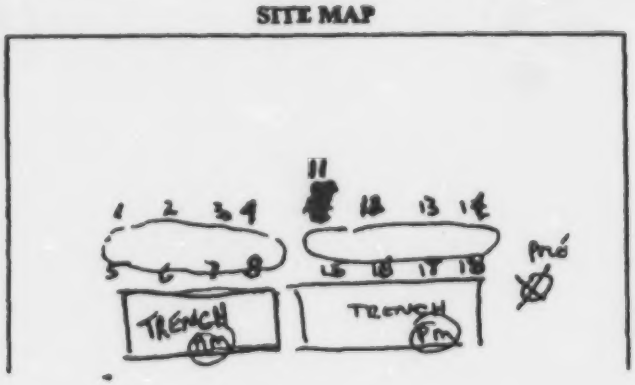
TRENCH L 4 IS ONLY DISTURBED AREA - TRENCH CONTAINT WATER - SURVEY DONE ON DEBRIS / SOIL FROM TRENCH

BACKGROUND GAMMA = 0.28
" A+B = 6.08

METER APPEARS TO READ HIGHER WHEN COLD (BACKGROUND @ 0.28 VS 0.18

LOCATION	TIME	GAMMA	A&B		LOCATION	TIME	GAMMA	A&B
1	0900	0.26	5.65		11	1640	.13	4.22
2	"	0.24	5.91		12	1640	.15	4.29
3	"	0.23	5.39		13	1640	.14	4.43
4	"	0.29	5.20		14	1640	.14	4.60
5	"	0.24	5.10		15	1641	.12	4.77
6	"	0.29	5.95		16	1641	.13	4.74
7	"	0.26	5.39		17	1641	.16	5.05
8	"	0.28	5.26		18	1642	.14	5.34
9	"	—			19			
10		—			20			

SITE MAP



~ 8:30 am

EPD #	MORNING READINGS	AFTERNOON READINGS
1	—	—
2	177	177
3	— 190	— 191
4	49	49
5	14	14
6	48	48
7		

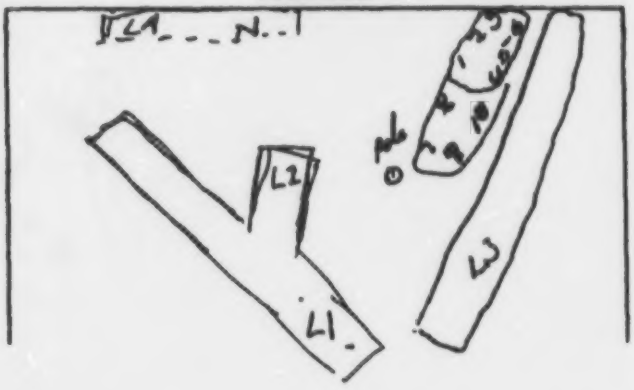
DATE
Feb 09-07

NOTES
Jim Rio (EDD 3) NOT ON SITE
TRANCH # L1 & L2
ALL READINGS AT BACKGROUND
METER TAKES 15 MIN TO 30 MIN TO DROP GAMMA READING FROM 0.50 μSV/hr to 0.15 μSV/hr

12:45 16:50 hrs

LOCATION	TIME	GAMMA	A&B		LOCATION	TIME	GAMMA	A&B
1	1130	.18	7.3		11 1	1100	.14	5.95
2	1130	.19	6.7		12 2		.14	5.28
3	1130	.19	6.5		13 3		.14	5.29
4	1130	.18	6.2		14 4		.14	4.46
5	1130	.18	6.6		15 5		.14	4.76
6	1130	.18	6.7		16 6		.12	5.15
7					17 7		.12	5.50
8					18 8		.15	5.68
9					19 9		.17	3.92
10					20 10		.16	4.51

SITE MAP



EPD #	MORNING READINGS	AFTERNOON READINGS
1	—	—
2	179	179
3	192	192
4	50	57
5	15	15
6	49	~~85~~ 49
7		

- SATURDAY -

DATE
Feb 10

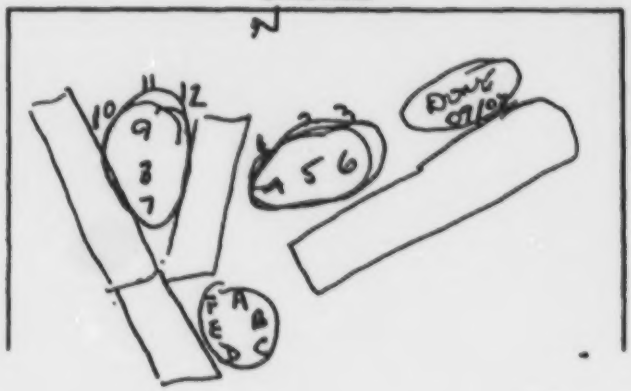
NOTES

- TRENCHES TO BE BACKFILLED AFTER SAMPLING
- PILES VERY STEEP

LOCATION	TIME	µSv/hr GAMMA	cps A&B
1	1195	<.20	<6.0
2	"	<.20	<6.0
3	"	<.20	<6.0
4	"	<.20	<6.0
5	"	<.20	<6.0
6	"	<.20	<6.0
7	"	<.20	<6.0
8	"	<.20	<6.0
9	"	<.20	<6.0
10	"	<.20	<6.0

LOCATION	TIME	µSv/hr GAMMA	cps A&B
11	1195	<.20	<6.0
12	1195	<.20	<6.0
~~13~~ A	1195	<.20	<6.0
~~14~~ B	11	<.20	<6.0
~~15~~ C	"	<.20	<6.0
~~16~~ D	"	<.20	<6.0
~~17~~ E	"	<.20	<6.0
~~18~~ F	"	<.20	<6.0
19			
20			

SITE MAP



ALL READINGS ON FILLED TRENCHES AT BACKGROUND

< 0.20 µ

< 6.5 cps A and B

AT 1600 HRS

EPD #	MORNING READINGS	AFTERNOON READINGS
1		
2		
3		
4		
5		
6		
7		

JUNOAM - Feb 11

DATE
Feb 11

NOTES

ONLY TEST PITS DUG TO DETERMINE SIZE OF LANDFILL - NO RADIATION WORK DONE TODAY

LOCATION	TIME	GAMMA	A&B		LOCATION	TIME	GAMMA	A&B
1					11			
2					12			
3					13			
4					14			
5					15			
6					16			
7					17			
8					18			
9					19			
10					20			

SITE MAP

EPD #	MORNING READINGS	AFTERNOON READINGS
1	—	—
2	181	
3	195	
4	53	
5	17	
6	52	
7		

MW Form 12

DATE

NOTES

SHUTDOWN - NO RAD WORK OR SURVEYS TODAY

DIEGO PICK UP ① EDPT @ 0845 + BOENIG ② SOIL SAMPLES FROM TRENCHES

LOCATION	TIME	GAMMA	A&B		LOCATION	TIME	GAMMA	A&B
1					11			
2					12			
3					13			
4					14			
5					15			
6					16			
7					17			
8					18			
9					19			
10					20			

SITE MAP

ANNEX F

DRES PHASE I

EXPENDITURES

PROJECT CLEAR

Record of expenditures against code: AE101HQ300

TRAVEL:

Inclusive Dates: 11 - 22 November 00.		**TOTAL**
Flights:	$441 00 plus $107.00 change fee.	$551.00
Hotel.		$1633.76
Food		$699.20
Car		$470.81
Incid		$147.36
Overtime incurred:	25 hours @ approx $30.00 per hour (GT-06)	$750.00
TOTAL		**$3684.97**

Travel December, 2000.

TRAVEL:

Inclusive dates: 09 - 15 Dec 2000		**TOTAL**
Flights:		$641.07
Hotel		$759.16
Food		$417.30
Car		$269.44
Incid		$53.98
Overtime incurred:	20 hrs @approx $30.00 per hour (GT - 06)	$600.00
TOTAL		**$2099.88**

Incidental Cost Incurred:

Material Purchases (Decon Supplies)	$1000.00
Equipment Repair and Calibration (Hapsite GC\MS)	$3000 00
TOTAL	**$4000.00**

TRAVEL
January, 2001
C. Aide and G. Soucey

	TOTAL
Air $370 X 2	$740.00
TD including hotels. (Adie)	$1283.00
(Soucey)	$947.00
Overtime costs: $670.32 X 2	$1999.32
TOTAL	**$4969.32**

TRAVEL

K. Pirie
30 Jan - 16 Feb 2001

Air $1700.00	$1700.00
TD including hotels, Car and other costs.	$4000.00
Overtime 41 hours X 1.5 X $30 per hour	$1631.25
TOTAL	**$7331.25**

TRAVEL

R. Matheson and J Reid
03 Jan - 12 Feb, 2001

Air: $500.00 X 2	$1000.00
TD including hotels (no cars) $1700.00 X 2	$3400.00
Overtime (R. Matheson only) 30 hours X 1.5 X $25 per hour	$1125.00
TOTAL	**$5525.00**

TRAVEL

C.Adie and G. Soucey
03 Jan - 14 Feb, 2001

	TOTAL
Air: 500.00 X 2	$1000.00
TD including hotels. $1930.00 X 2	$3860.00
1 Car rental	$500.00
Incidental costs (video Camera)	$900.00

Decon supplies (internal standards for hapsite)	$2000.00
Overtime (both) 33 hours X 1.5 X $28 per hour X 2 pers	$2772.00
TOTAL	**$11032.00**

PROJECT TOTAL (as of 20 Feb 2001. Approx)	**$38642.42**

ANNEX G

MINUTES

of

PROJECT CLEAR MEETINGS

MINUTES OF PROJECT CLEAR MEETING
HELD ON MONDAY, 05 FEBRUARY 2001 AT 1300HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

February 2001

Attendees Present:

LCol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
LS Michel Cormier, MP Coy, 995-6606
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr Paul Bois, PWGSC, CSU #1, 775-4532
Mr Tony Gariano, PWGSC, CSU #1, 775-4514
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Diego Estan, DREO, 998-2208
Mr Ken Pirie, DRES, (403) 502-5647
Capt Tom St-Denis, DGPA, 996-0451
Ms Lori MacAdam, PWGSC, CSU #1, 775-4548
CWO Jim Reid, DRES, (403) 544-4810
Mr Chris Adie, DRES, (403) 548-5683
Dr Peter Lockwood, DREO, 990-7070
Mr Gary Soucey, DRES, (403) 544-4687
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1 LCol Johnson convened the meeting by thanking everyone for attending. There were no comments on the previous minutes, other than to change the date from 29 Jan to the 31 Jan.

2. LCol Johnson inquired as to whether or not Mr O'Connell had permission to speak in front of the Media Mr Bois stated that at this time there was still no answer Lcol Johnson then restated that the only spokesmen for the project at this point would be Mr Gardiner and Mr Pirie.

3 Mr Pirie stated that Dr Lockwood, who used to be the Head of Chemistry at DRES, would be the official spokesperson as the scientific expert.

4. LCol Johnson inquired as to where the briefing on Thursday would take place. Capt St-Denis stated that the media would first be brought down on site to take pictures. Mr Pirie stated that they may use the decontamination trailer to do the briefing if the weather is not cooperating.

5 LCol Johnson stated that there is medical aid for Tuesday and Wednesday (06-07 Feb 01) from HCC, but after that it is unknown where the support will come from. Mr O'Connell stated that he would approach 2 SVC Bn Petawawa to see if they are able to give support. Mr Gardiner stated that Lcol Taillefer has made a request to HCC to have

Medical coverage for the entire intrusive investigation. Mr Gardiner will follow up on that request.

6. MWO Courtemanche handed out and explained the radio diagram. Mr O'Connell stated that he had been using the diagram today with no problems. Capt St-Denis stated that he would like DGPA to be put on the radio diagram.

7. Mr O'Connell stated that instead of using 911, there is a direct line to the Nepean Fire Department who will in turn dispatch who or what is needed on site in the case of emergency. In the case of an emergency, "EMERGENCY, EMERGENCY, PROJECT CLEAR" will be the cue to let Range Control know that emergency people are on their way. Range Control will contact the Military Police if there is an emergency.

8. Mr O'Connell stated that there is more phone numbers to be put on a list of everyone involved in the project. Mr Pirie stated that the Cartier Suites number is 236-5000.

9 Mr O'Connell stated that the fence is up and ready for the "No Trespassing" signs to go up. He also stated that it would be awhile before the results are in on the water samples taken The water is frozen in well #1, therefore they were unable to take samples from it

10. Lcol Johnson inquired about the outcome of the Environmental Assessment (EA). Mr Pirie stated that DRES was happy with the amendments made last Wednesday evening with the consultant Mr O'Connell stated that the EA would be couriered to Range Control sometime today
(Note: The EA was delivered at the end of the meeting)

11. Lcol Johnson stated that the intrusive work should start tomorrow (6 Feb 01). Mr Pirie stated that in case of any concerns, there should be an hour meeting each morning. The hours of operations will be approximately from 0700- 2000hrs daily.

12. Mr Gardiner stated that everything looked to be going well.

13 Mr O'Connell stated that the Plumber would be going down to the site tomorrow morning, the bins and overpacks will be delivered later on Wednesday and power to the site has been cut off. He also stated that himself, Mr Gardiner and Mr Pirie will be briefing the 2 Svc Bn Senior staff on the project.

14. Mr Pirie stated that there was one equipment problem but it was not a showstopper

15. Capt St-Denis stated that the media advisory would be going out Wednesday for Thursday's briefing. He also stated that the spokespeople should have short answers using plain language. Everything should be kept at a Grade 8 level. The media briefing is set for 1000hrs Thursday 08 February 2001.

16. Dr Lockwood asked Capt St-Denis what he needed to be prepared for at Thursdays meeting with the Outaoiuis Urban Committee. He also inquired if the DRES's presentation from the first set of briefings would be used and if so should it be translated into French. Dr Lockwood stated that he was not comfortable going over to Alymer unprepared and this is why he requested this information last week.

Mr Gardiner stated that Lcol Taillefer would be the spokesperson for the meeting held in Aylmer on Thursday.

17. Lcol Johnson stated that any inquires should be directed to the official spokesperson Throughout the briefings there will be no connection to Project Oracle.

18. LS Courmier stated that he would like a copy of the phone list and the Emergency Response Plan. Mr O'Connell will ensure that he gets these items.

19 Mr O'Connell stated that the Commissioner would be briefed today and starting tomorrow MWO Courtemanche stated that the extra patrols would be coming from downtown Mr Pirie stated that a couple of the doors to the trailer are only one way, so they will make sure to jimmy those doors to ensure that the Commissioner is able to leave the trailer in the case of an emergency.

20. MWO Courtemanche informed everyone that there is a sign in and out book for anyone requesting to go on site. There is also a checklist at the end of the day for the last person to leave the site to fill out.

LCol Johnson stated that the next meeting would be Tuesday, 6 February 2001 at 1300hrs at Range Control

MINUTES OF PROJECT CLEAR MEETING
HELD ON TUESDAY, 06 FEBRUARY 2001 AT 1300HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

Attendees Present:

LCol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr John Gardiner, CFSU Ottawa, 995-7820
CWO Jim Reid, DRES, (403) 544-4810
Mr Chris Adie, DRES, (403) 548-5683
Mr Tom Gnoicott, 2 Svc Bn Petawawa, 639-7452
Mr Diego Estan, DREO, 998-2208
Mr Christian Robichaud, Neil A Levac Engineering, 446-7777/ 229-0710
Robina Duermeyer, Neil A. Levac Engineering, 446-7777/ 276-8820
Mr B Hoffarth, DREO, 998-2185
Mr Can McQueen, CRC, 998-2209
Capt Wayne Desjardins, 2Svc Bn Petawawa, 295-1921
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1. LCol Johnson welcomed everyone to the 5th meeting of Project CLEAR He stated that since there was support from HCC for a med only until tomorrow, 2 Svc Bn is willing to support the Project with 7 Meds and 1 Doctor.

2. MWO Courtemanche distributed a phone list with everyone involved in the project's phone number. LCol Johnson stated that with the exercises taking place on the grounds, those involved with Project CLEAR are to say "Project CLEAR" in order to get past the gate. LCol Johnson also stated that things were progressing well and digging is set to start tomorrow.

3. Mr O'Connell stated that the heavy equipment's operator requires more swinging room, therefore more trees will need to be removed. He also stated that the Commissioner would be briefed tonight. The Nepean Fire Rescue has walked the grounds.

4. Mr O'Connell introduced Robina Duermyer as the Environmental Support, that was contracted to Neil A Levac Engineering. Robina is to be the support directly on site Mr O'Connell also stated that water filling the excavation might be a problem This issue is to be discussed in further detail down at the site.

5. Mr Gardiner stated that everything looks positive. He has sent an email on Dr Lockwood's questions posed at the meeting yesterday. Mr Gardiner inquired as to Dr Lockwoods requirements for Thursday's media briefings. LCol Johnson decided that a meeting between Dr Lockwood, Capt St-Denis, Mr Pirie and Mr Gardiner is needed before the Thursday.

6. Capt Desjardins stated that 2 Svc Bn will be prepared to brief the media on the exercises going on at the training camp.

7. Mr O'Connell stated that he has been given direction to speak to the public only on the Project Management aspect of things.

8. Mr Gardiner stated that the EA should have been couriered to Tony Gariano this morning. Mr O'Connell will follow up.

9. Mr Gardiner and LCol Johnson thanked Mr O'Connell for his logistic support to the project.

10. LCol Johnson concluded the meeting by reminding everyone that the next meeting would be 07 February 2001 at 1300hrs at Range Control.

MINUTES OF PROJECT CLEAR MEETING
HELD ON WEDNESDAY, 07 FEBRUARY 2001 AT 1300HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

Attendees Present:

LCol Bryan Johnson, CO CRPTC, 998-2129
LCol Jacques Taillefer, CFSU (O) COS, 995-6696
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr Tony Gariano, PWGSC, CSU #1, 775-4514
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Diego Estan, DREO, 998-2208
Mr Ken Pirie, DRES, (403) 502-5647
Mr Cam McQueen, CRC, 998-2209
Mr B Hoffarth, DREO, 998-2185
Capt Rickards, NSE, 295-1917
Capt Wayne Desjardins, 2 Svc Bn, 295-1921
Ms Robina Duermeyer, Neil A. Levac Eng., 446-7777/ 276-8820
Mr Eric Surprenant, Neil A. Levac Eng., 446-7777/ 229-0719
Mr Christian Robichaud, Neil A. Levac Eng., 446-7777/229-0710
Ms Tina Hearty-Drummond, PWGSC, Environmental Services, 956-1477
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1 LCol Johnson introduced LCol Taillefer, the acting Cmdt CFSU Ottawa. He also reiterated that any issue dealing with the project should be dealt with between John Gardiner, Ken Pirie, Mike O'Connell and himself.

2. LCol Johnson stated that the media briefing would start tomorrow at 1000hrs. The media would be grouped at Range Control and then brought down to the site. 2 Svc Bn had been informed about the media briefing and will be on hand to answer any questions about their exercises.

3 Mr O'Connell stated that everything is ready to go. The consultant is on board and DREO's van is down at the site. DRES should be able to start digging this afternoon around 1400hrs. LCol Johnson stated that all the paperwork had been signed.

4 Both Mr Gardiner and Mr Pirie stated that everything looked good.

5. Mr Gariano stated that the Environmental Assessment is being distributed and the water sampling issue is being dealt with.

6. Capt Rickard introduced himself as the Public Affairs Officer for 2 Svc Bn Any questions in relation to the media should be directed to him. He can be reached at 295-1917.

7. MWO Courtemanche informed the attendees that other units are doing training. Everyone was asked to be patient if they are delayed at the checkpoint.

8. LCol Taillefer stated that he was happy with the way things were going, as long as all legal requirements were met.

LCol Johnson stated that the next meeting would be 08 February 2001, at 1300hrs, at Range Control.

MINUTES OF PROJECT CLEAR MEETING
HELD ON THURSDAY, 08 FEBRUARY 2001 AT 1300HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

Attendees Present:

LCol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Ken Pirie, DRES, (403) 502-5647
CWO Jim Reid, DRES, (403) 544-4810
Mr Chris Adie, DRES, (403) 548-5683
Ms Tina Hearty-Drummond, PWGSC, Environmental Services, 956-1477
Mr Christian Robichaud, Neil A. Levac Engineering, 446-777/ 229-0710
Robina Duermeyer, Neil A. Levac Engineering, 446-7777/ 276-8820
Capt Wayne Desjardins, 2 Svc Bn Petawawa, 295-1921
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1. LCol Johnson stated that the media event went well, and now that it was out of the way the actual work could progress forward.

2. Mr O'Connell stated that because of the weather, Poly is being layed.

3. After a brief discussion on the soil issue, Mr Pirie stated that DRES would excavate for 3 days at a time, wait for the results of the soil tests then segregate the waste found, and finally rebury the soil until Phase II of the project. Mr Robichaud stated that if the samples come back above the guidelines, you could remove the soil to another location. Mr O'Connell stated that they will continue to trench and Poly the soil that is stored on site Mr Pirie stated that the lay down area for the soil would be determined this afternoon.

4. Mr Gardiner stated that funding is available to do as much as possible of this project this FY.

5. Ms Hearty-Drummond stated that Levac Eng. was brought on board to follow the scope of work that was provided to her by DND.

6. LCol Johnson reminded the attendees that the project impacts the Range Complex.

7. Mr Gardiner stated that he had been asked to identify by the end of the week how much funding is required for the project this FY.

8. Mr Pirie stated that DRES will need labourers to clean the debris. Mr O'Connell will provide the manpower required to complete the task.

LCol Johnson closed the meeting by informing attendees that the next meeting will be held 09 Feb 01 at 1630hrs.

MINUTES OF PROJECT CLEAR MEETING
HELD ON FRIDAY, 09 FEBRUARY 2001 AT 1630HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

Attendees Present.

LCol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Ken Pirie, DRES, (403) 502-5647
Capt Wayne Desjardins, 2 Svc Bn, 295-1921
Mr Christian Robichaud, Neil A. Levac Eng., 446-7777/229-0710
Ms Tina Hearty-Drummond, PWGSC, Environmental Services, 956-1477
Mr Gary Soucey, DRES, (403 544-4687
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1 LCol Johnson stated that there was a meeting held at 1300hrs to review materials that were found. Glass materials from a laboratory were identified, that seemed to have been subject to burning. There was also, a detectable odour of hydrocarbons. It seems the materials may have been put in the pits, then set on fire, with some of the hydrocarbon used, seeping to the ground before it could be burned.

2. Mr Pirie stated that water had not become an issue at this point in the Project

3 MWO Courtemanche stated that some bad weather is coming our way overnight, and inquired if it would effect the Project's progression. Mr Pirie stated that as long as DRES had power, there shouldn't be a problem

4. LCol Johnson warned everyone to be especially careful with the slippery conditions.

5. Mr Pirie stated that he talked to his boss and informed him that DRES may be tasked in doing Phase II and Phase III. Phase II would involve the DRES team completing excavation, removing materials and filling with clean soil, during 10-24 March 2001. Phase III would involve the segregation of soils. DRES would like to Complete Phase III sometime between April and July.
This proposal is feasible for Mr Gardiner and Mr Pirie.

6. LCol Johnson inquired as to the length of time before Phase I is complete. Mr Pirie stated that DRES should be finished on the 16 Feb 01. DRES hope to have completed excavation by Monday, 12 Feb 01, have results by Wednesday, 14 Feb 01 and have trenches filled in by Thursday, 15 Feb 01.

7. Mr Robichaud stated that it is clear that this soil needs to come out, as the results are way above federal guidelines.

8. Mr O'Connell stated that he must liaise with his management on the issue of Phase II and Phase III

9 Mr Pirie reminded everyone that what he has put forth was just a proposal. LCol Johnson stated that he would include DRES's proposal in the next SITREP

10. MWO Courtemanche stated that the Range would be available for DRES to complete Phase II from 10-24 March 2001.

11. Mr O'Connell stated that PWGSC was able to do the work, but they need to know the details.

12. LCol Johnson stated that Monday, 12 Feb 01, would be his last working day for a week.

13. Mr O'Connell inquired as to when he could start backfilling the excavations Mr Robichaud stated that his team knows the exact location of each sample. LCol Johnson inquired as to whether or not the soil should be sent off the property.

14. Ms Hearty-Drummond stated that there was only one monitoring well determining the effluent into Shirley's Bay. She inquired if there was going to be two more put in between the site and the bay, as indicated in the EA. Ms Hearty- Drummond also added that they still need to establish the perimeters. Mr Pirie stated that he was under the assumption that the area being dealt with at this time was the outside perimeters.

15. Mr O'Connell stated that he needed direction from Mr Gardiner as what to do about the trenches. He also stated that snow fence was going up right now. MWO Courtemanche suggested putting plywood across the trenches. Mr O'Connell stated that he had a safety concern with not backfilling the trenches. Mr Gardiner stated that he was satisfied with putting up the snow fence and laying the plywood Mr Pirie stated that they could fill the pits tomorrow if there is a safety concern. LCol Johnson stated that he would take full responsibility if anything were to happen down at the site. Mr O'Connell stated that he was liable for the safety of people entering the site.

16. Mr O'Connell asked Mr Gardiner who his alternate for the Project would be. Mr Gardiner stated that he didn't have an answer at this time.

17. MWO Courtemanche stated that his contact number was not 229-4931, but rather 299-4931.

LCol Johnson closed the meeting by stating there would be another meeting on Monday, 12 February 2001, to discuss Phase II of the Project.

MINUTES OF PROJECT CLEAR MEETING
HELD ON SATURDAY, 10 FEBRUARY 2001 AT 1200HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

Attendees Present·

LCol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Ken Pirie, DRES, (403) 502-5647
Mr Christian Robichaud, Neil A. Levac Eng., 446-7777/229-0710
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1. Further to a meeting held 10 February 2001 at 0730hrs, Mr Gardiner stated that everyone around the table were in agreement that the proposal put forth by all parties was in the best interest of Connaught Ranges and Primary Training Centre The proposal would see the DRES team re-deploying back to Ottawa for the completion of Phase II of Project CLEAR, tentatively scheduled from 10-24 March 2001. DRES would oversee and manage soils removal and consolidation from the present landfill location to the gravel area know as the "quarry", situated in NW corner of CRPTC property.
Mr Robichaud has provided information on the availability of backfill materials and commercial trucking capability.

2. A tentative proposal for a Phase III of Project CLEAR would be scheduled sometime between April and June 2001. This Phase of the project would include the segregation, categorization and proper waste management of the material Mr Gardiner also stated that Mr O'Connell would continue to provide logistical support.
Mr Gardiner requested LCol Johnson's approval to do Phase II in March

3 Mr Gardiner requested that all backfilling operations with respect to the four suspect trenches which were investigated by DRES were to be backfilled

4. Mr Pirie stated that water in the trenches was still a concern, but that it would not cause a problem during backfill operations In furtherance to this Mr Pirie informed the quorum that the intrusive investigation would be completed in two hours.

5. Mr Pirie stated DRES with assistance from the environmental contractor, would conduct test pitting around the site in order to establish the exact size of the landfill. He also stated that he has briefed people entering the site that they are to wear the proper PPE, including respirators.

6. Mr Pirie stated that they only found one 45-gallon drum The trenches were excavated in accordance with the geophysical survey information furnished by the environmental contractor. Mr Pirie also stated that the site looks like it was well managed.

7. LCol Johnson reiterated that Phase I would be complete when the last set of soil sample resuits are received and the soil is backfilled.

8. Mr Gardiner stated that it has been documented that two more monitoring wells should be put in between the site and the bay.

9. Mr O'Connell stated that the telephone polls on site would be removed. The site will be secured until Phase II commences (the fencing will remain in place).

10. Mr Robichaud stated that the turn around time for sampling results is about 3-4 working days.

11. LCol Johnson stated that he would inform the Chain of Command on all the particulars discussed today.

12. Mr Robichaud stated that all soils analysis results would be available one week after the last sample is taken.

LCol Johnson closed the meeting by stating unless something of particular interest comes up, the next meeting won't be until 12 Feb 01 at 1300hrs.

MINUTES OF PROJECT CLEAR MEETING
HELD ON MONDAY, 12 FEBRUARY 2001 AT 1300HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

Attendees Present:

LCol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr Paul Bois, PWGSC, CSU #1, 775-4532
Mr Tony Gariano, PWGSC, CSU #1, 775-4514
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Ken Pirie, DRES, (403) 502-5647
Capt Tom St-Denis, DGPA, 996-0451
Mr Chris Adie, DRES, (403) 548-5683
Mr Gary Soucey, DRES, (403) 544-4687
Mr Chris Robichaud, Levac Eng., 446-7777
Mr Barry Richards, PWGSC, CSU #1, 775-4533
Mr Lucien Rochette, PWGSC, CSU #1, 229-4140
Capt WC Desjardins, 2 Svc Bn, 295-1921
Maj TM Endicott, 2 Svc Bn, 639-4752
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1 Lcol Johnson welcomed everyone to the table, explaining that we were here today to discuss the wrap up of Phase I and to discuss Phase II of project CLEAR. DRES finished digging on Sat., 10 Feb 01, leaving no further work to be done in the intrusive investigation. Lcol Johnson will send the last SIDREP for Phase I today

2. Mr Pirie stated that nothing further was found in the test pits.

3. Mr O'Connell stated that all the heavy equipment is off site. He will be ready to secure the site tomorrow.

4. Mr Robichaud stated that there was nothing seriously alarming found in the soil sample results so far. The rest of the results should be in by the end of the week The results will be sent to Mr O'Connell who will in turn send them to Mr Gardiner and Mr Pirie.

5 Mr Gardiner stated that they have to decide whether to put the two monitoring wells in during Phase I or Phase II

6. Capt St-Denis stated that he needs to provide an update to the media when Phase I is complete and the test results are in. Lcol Johnson stated that the media could be notified that nothing fo significant interest including chemical or biological waste was found at this point.

7 Lcol Johnson thanked Mr Gardiner, Mr Pirie and Mr O'Connell for dealing with the part of the Project in such a professional matter.

8. Lcol Johnson reiterated that Phase two would involve soils removal and consolidation from the present landfill location to the gravel area know as the "quarry", situated in NW corner of CRPTC property. Phase II would have DRES coming back on the 10-24 March 2001. Mr O'Connell stated that Phase II can be done but they need to come up with a way to contract it out. Mr Pirie stated that DRES would be on site to oversee the removal and safe deposit of the materials, to the other site. If questionable material is discovered, then DRES would be on hand to deal with it.

9 Mr Bois inquired as to the amount of soil that needed to be moved. Mr Robichaud handed out copies of the cost breakdown that confirmed there would be approximately 11000tons to be moved. The approximate cost to move this material as set out by Levac Eng., is $328,000. However this cost is not official until all the test results are back from the laboratory. Lcol Johnson stated that we are to assume that the gravel site will hold this amount of soil. Mr Bois stated that there is no physical barriers to move this material, but inquired as to how to sole source this amount of funds to a contractor.

10. Ms Hearty-Drummond stated that she received two phone calls from two different contracting firms inquiring why Levac Eng., is working on this project

11. Mr Pirie stated that since DRES are the only people able to do this type of project, he recommended that CFSU Ottawa take advantage of DRES's availablity from the 10-24 March 2001. DRES may not be able to send their team at another time.

12 Mr Bois stated that as a government department PWGSC is committed to Treasury Board and if they sole source this project, the red flags will go up.

13. Mr Gardiner inquired as to whether or not a contract can be put out for the heavy equipment. Mr Bois stated that this would be split contracting, which is not feasible

14. Mr Gardiner stated that he would have two individuals with experience of landfills near wetlands visit the site on Wednesday (14 Feb 01).

15. Mr Richards stated that they should be able to get quotes from contractors in two weeks.

16. Mr Bois asked what the impact would be if Phase II doesn't proceed until after March Lcol Johnson stated that DND has a window of opportunity to complete the project that should be taken advantage of Mr Bois stated that higher authoritieswill need the facts in order to make a decision. He also stated that if this site is declared an emergency site, the project will progress in March. Lcol Johnson stated that he will need to confirm will Col Cyr and Lcol Taillefer???????????????? He also stated that Mr Brez and Mr Doucett need to be on side ???????????????? Mr Bois stated that they

need to figure out it this is an Emergency situation or if there is any alternate means of securing the site Again, Lcol Johnson reiterated that there was this window of opportunity that should be taken advantage of. Mr Bois stated that being a wetland issue could constitute this as an emergency situation. Lcol inquired as to whether individuals from ADM (IE) could speak on their thoughts of this project on Thurday (15 Feb 01). Mr Bois stated that they should wait for the results before any decision is made. He also asked if Mr O'Connell or Mr Gariano could be in attendence when Mr Gardiner spoke with the individuals from ADM(IE).

31

MINUTES OF PROJECT CLEAR MEETING
HELD ON WEDNESDAY, ~~29~~ JANUARY 2001 AT 1200HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

February 2001

Attendees Present:

Lcol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
LS Michel Cormier, MP Coy, 995-6606
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Mr Paul Bois, PWGSC, CSU #1, 775-4532
Mr Tony Gariano, PWGSC, CSU #1, 775-4514
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Diego Estan, DREO, 998-2208
Mr Trevor Jones, DREO, 998-2313
Dr Tom Cousins, DREO, 998-2312
Mr Ken Pirie, DRES, (403) 502-5647
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1. LCol Johnson convened the meeting by stating that this would be the second last meeting before the actual digging on site would begin The attendees were also told that Mr Gardiner would not only be the OPI for the project but would also be the Constructor of the project.

2. Mr O'Connell was asked if there had been any indication whether he had permission to speak in front of the media. Mr Bois stated that he would look into it and have an answer as soon as possible. In order to clarify the spokesperson's role, LCol Johnson reiterated Mr Gardiner's, Mr Pirie's, Mr O'Connell's and his role in the public consultations. Mr Pirie stated that DRES personnel would be the only people speaking on behalf of DRES LCol Johnson reminded everyone that Mr Gardiner, Mr O'Connell and himself are to be aware of all issues involving the project and that issues should remain within the core people of the project.

3 Mr Pirie stated that everything that happens on site during operations would be bullet log and video taped to ensure everyone is up to speed on daily events. There will also be safety briefings for everyone entering the site. Site control will prevent any access to the site during intrusive investigation.

Mr Pirie conveyed to Mr O'Connell that DRES still requires bins for any contaminated soil and overpacking for drums that may come out of the site.

4. Mr O'Connell inquired about medical support Mr Gardiner stated that a request has been sent up through the change of command asking medical support from HCC.

5. Mr O'Connell stated that radios would be needed for himself, LCol Johnson, Mr Pirie, Mr Gardiner and DREO. MWO Courtemanche stated that he would do a radio diagram.

6. Mr Pirie informed everyone that DRES's five man team would be arriving Saturday the 3 Feb 01. The team will be having a meeting on 4 Feb 01 and they should be ready to start the intrusive investigation on 6 Feb 01. He stated that if the team finds HAZMAT, they would not re-bury it.

7. Mr O'Connell stated that the snow fence would be going up around the work site on Thursday and Friday He requested someone give him the requirements for spacing of the signage. MWO Courtemanche has the requirements and will get them to Mr O'Connell The consultant will do water sampling on Thursday or Friday, the Commissioner will go down tomorrow (Thursday) to view the site and the Ottawa Fire department will be coming down on Monday to view the site

8. Mr Gardiner stated that the three consultant reports were going to be forwarded to the Outaouais Urban Community and that CFSU Ottawa would be making a presentation at their next environment committee meeting. Mr Gardiner stated on behalf of Capt St-Denis that the revised Communication Package had been signed off by DREO and the Cmdt CFSU Ottawa. Mr Gardiner advised that three minor revisions have been requested by Cmdt CFSU Ottawa on the Communication Package. The next media briefing is scheduled for Thursday, 8 February 2001 Mr Gardiner requested a site visit for the 40hr Contaminated Site Health and Safety Training course attendees.

Mr Gardiner also stated that a few emails were sent to ESO from the CSU #1 regarding
-training requirements for those working with the Project;
-funding; and
-logistic support to the Project, including security and equipment for the site.
These issues were deferred to a following meeting involving LCol Johnson, Mr Bois, Mr Pirie and Mr Gardiner

9. Mr Gardiner stated that after reviewing the Environmental Assessment, Ken Pirie and himself had changes that needed to be made. Being a key document to the Project, LCol Johnson inquired as to whether Mr Gardiner could meet with the consultant to make these changes. Mr Bois stated that Mr Gardiner was not to meet with the consultant unless a representative from PWGSC was present for the meeting. Mr Bois also stated that any comments are to be provided to him before they go to the consultant that was hired by PWGSC. Mr Gardiner then requested to meet with the consultant and PWGSC to present the revisions.

10. Mr Pirie stated that he brought the three finalized documents In the documents Mr Pirie is listed as the Field Tech Manager, Mr Gardiner is the OPI and Mr O'Connell is the Logistics Manager.

LCol Johnson thanked everyone for attending and stated that there would be another meeting on Monday, 5 February 2001 at 1300hrs at CRPTC, to go over everything before the investigation starts on Tuesday.

MINUTES OF PROJECT CLEAR MEETING
HELD ON WEDNESDAY, 24 JANUARY 2001 AT 1300HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

January 2001

Attendees Present:

Lcol Bryan Johnson, CO CRPTC, 998-2129
MWO Chuck Courtemanche, RCO/CRPTC, 991-5740
LS Michel Cormier, MP Coy, 995-6606
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
Capt Tom St-Denis, DGPA, 996-0451
Mr John Gardiner, CFSU Ottawa, 995-7820
Mr Diego Estan, DREO, 998-2208
Mr Trevor Jones, DREO, 998-2313
Dr Tom Cousins, DREO, 998-2312
Ms Penny MacGregor, CFSU Ottawa, 995-6202

1. LCol Johnson convened the meeting by asking everyone if they had any comments on last week's minutes. Everyone accepted the minutes. Lcol Johnson thanked Mike O'Connell for getting the three consultant reports to him. Capt St-Denis stated that he received the comments from DREO on the revised communication package

2. After discussion with the meeting attendees it was decided that "No Trespassing" signs would go up around the actual work site, for this phase of the project. Lcol Johnson addressed the fact that the SAMP report went out to a large distribution without first being consulted with all the main people of the project. He stated that he had a real problem with paragraph 7, which speculated what was in the landfill site especially since we have no imperical information that tells us that the site is anything but a landfill Although due diligence is clearly important we shouldn't be putting something out there that isn't factual. Capt St-Denis stated we must be consistent with what we conveyed to the public. LCol stated the decision that was made last October would remain as is, in that the generic DND "No Trespassing" signage is what will go up around the actual work site, until something definitive is found. LS Cormier concurred with Lcol Johnson that DND signage can be used at this point in time.

3. Mr O'Connell stated that he was unable to put up the standard fence with wooden top frame. A regular snow fence will be going up on Monday morning.

4 Lcol Johnson inquired if the water samples taken last Friday from the monitoring wells at the site came back Mr Jones replied that they came back undetected other than small background levels of Radium Mr Gardiner asked if the results could be formally send to him. Mr Estan will send a copy to Mr Gardiner's office

5. MWO Courtemanche stated that 270 troops from 2 Brigade would be involved in exercises from the 2-13 February 2001. They have been made aware of what will be taking place. Capt St-Denis will liase with the brigade's DGPA representative.

6. Mr O'Connell stated that DRES team does not require any tentage at this point.

7. Lcol Johnson restated that Mr Gardiner is the official spokesperson for the project. If any questions are asked about Connaught Range in general the media will be forwarded to Lcol Johnson. If no one is available when/if the media show up then they will be directed to contact Capt St-Denis.

8. Mr O'Connell stated that there would be no access to the site beyond the pumphouse without proper notification through Range Control.

9 LS Cormier stated that he would check with Maj Taylor as to whether or not the Military Police have been notified that they may have to come out on site.

10. Mr Gardiner inquired about a Standby Ambulance on site while DRES is doing the work. Mr O'Connell replied that he will try to get municipal ambulance to give their support, but if they are unable then he will try and get support from HCC to get a medic on site.

11. It was decided by all attendees at the meeting that minutes did not need to be signed off.

12. Mr O'Connell stated that the Consultant was supposed to email the draft of the Environmental Assessment to him today.

13. Mr O'Connell stated that the site was 100% ready. He asked Mr Gardiner where to get the funding for the rental of some equipment. Mr Gardiner replied that it should be charged to the project file.

14. MWO Courtemanche stated that a snowmobile is now available.

15. Lcol Johnson stated that it would be helpful to have the military police help Range Control on weekends and evenings. LS Cormier will look into having someone from the MP available.

16. Capt St-Denis stated that the Outaouais Urban Community has asked for a copy of the three consultant reports. Capt St-Denis told them that he required a request in writing for these items before he could send them. Their committee would also like someone to speak briefly at their next council meeting. They were also told that there would be a media visit. The target date for this event will be tentatively scheduled for the 9 February 2001.

17. Dr Cousins requested that DREO take a larger water sample from the monitoring wells on the site. DREO is planning on bringing a mobile nuclear lab that needs a 30amp plug in. They also require a financial code

Lcol Johnson closed the meeting by reminding everyone that the next meeting will be held next Wednesday, 31 January 2001 at 1200hrs instead of 1300hrs since regular attendees of these meetings will be on training and only available at the lunch hour.

MINUTES OF PROJECT CLEAR MEETING
HELD ON FRIDAY, 12 JAN 2001 AT 0900 HRS

January 2001

Attendees Present:

LCol Jacques Taillefer, CFSU Ottawa, COS Sp, Chairperson, 995-6696
LCol Bryan Johnson, CO CRPTC, 998-2129
Maj Richard Burnford, D Env S 3-3, 995-1685
Maj Stephen Roberts, J3 ACV, 995-5700
Capt Tom St-Denis, DGPA, 996-0451
WO Denis Lecompte, CFSU Ottawa/CFI, 775-4534
Mr Paul Brez, PWGSC CSU#1, 775-4500
Ms Chantal Bergeron, DAPC Pol, 992-8496
Mr Andrew Davis, D Safe G 3, 992-4196
Mr Gerald Doucet, PWGSC/NCSU-ND, 775-7400
Mr Diego Estan, SST/DREO, 998-2208
Mr John Gardiner, ESO/CFSU Ottawa, 995-7820
Mr Tony Gariano, PWGSC CSU#1, 775-4514
Mr Dean Haslip, SST/DREO, 998-3231
Ms Tina Hearty-Drummond, PWGSC/Env Services, 956-1477
Ms Heather Kennedy, PWGSC/Env Services, 956-2227
Ms Penny MacGregor, ESO/CFSU Ottawa, 995-6202
Ms Mary Anne O'Keefe, EFM/DREO, 998-2897
Mr Mike O'Connell, PWGSC CSU#1, 775-4541
Mrs Barbara Whalen, ESO/CFSU Ottawa, 995-7816

I - INTRODUCTORY REMARKS

1. LCol Taillefer convened the meeting by having attendees introduce themselves. He requested that attendees be precise in their discussion of the issues and avoid the use of acronyms. He stated that in the past two years DND has significantly changed their approach to doing business from DND/CE to Alternate Service Delivery (ASD) through PWGSC/CE The two-year partnership initiation period has been a learning experience He stated that although the mandate of both DND and PWGSC in regards to occupational health and safety and environmental commitments is synonymous, a clearer statement of responsibilities is necessary. With a number of key personnel from both departments involved in a project, it is critical that personnel involved are aware of their individual roles and responsibilities including the mandate/scope of the overall project.

2 Mr Doucet reiterated LCol Taillefer's comments stating that although PWGSC may have a different approach to doing business, the ASD partnership makes them a part

of DND, not two separate entities. He stated that PWGSC welcomes the opportunity of working with DND and of building a viable partnership through Alternate Service Delivery. He also stated that clarification of the OPI for the Project leadership needed to be addressed.

II - LIABILITY

3 LCol Taillefer confirmed that liabilities and due diligence rest with DND, the owner of a Federal property. *Secretarial note: contractual agreement on such projects between DND and PWGSC is being reviewed to ensure that there is no legal ambiguity. Further, changes to the CLC including individual responsibilities must be considered and implemented. The question of who is to be appointed "Constructor" needs to be addressed before 4 Feb 01.*

III - PROJECT OPI AND PROJECT MANAGER RESPONSIBILITIES

4. LCol Taillefer stated that the Project OPI and Project Manager roles and responsibilities must be clearly defined. Mr Doucet explained that the Project OPI is responsible for the scope of work for the project and the Project Manager is responsible for understanding and delivering the scope of work.

5 Chairperson reinforced that the Project OPI for Project CLEAR is Mr Gardiner and the Project Manager is Mr O'Connell. Additionally, LCol Johnson as the CO CRPTC retains overall responsibility as on site coordinator for the Cmdt. He stated that the OPI is accountable to the Cmdt CFSU Ottawa through him LCol Taillefer reiterated the importance of communication between the key players of the Project. Paul Brez is to be contacted if there are communication problems with PWGSC. Further, he asked from whom the project manager is taking his directions from. It was confirmed that it was from the project OPI.

6. Mr Doucet stated that as DND has precedence on DND owned sites, the project will use DND rules and regulations.

7. LCol Johnson: Issues need to be dealt with on a daily basis and suggested that he, John Gardiner, Tony Gariano, Mike O'Connell, Penny MacGregor and Capt Tom St-Denis meet with him every second day, or more often as the Project dictates, as a Project update and to discuss and resolve issues as they come up. I t was agreed by all attendees that a Project CLEAR meeting be held at CRPTC every two days, or more often as the project dictates. Finally, LCol Johnson requested that the Project OPI and the Project Manager keep him informed on all issues as they arise. LCol Johnson· With respect to the overall Project, LCol Johnson reported that he is not "unsatisfied" with the project status to date. He stated that communication of information up through the chain of command needs to be addressed. All key players need to be kept informed of all issues/meetings pertaining to the Project.

8. Mr Gardiner requested that requests for information be communicated through him and not directly to DGE.

9. Mr Doucet and the chairperson requested that minutes be taken at all meetings pertaining to Project CLEAR.

10. LCol Taillefer: A Health and Safety Plan, Field Technical Plan and Emergency Response Plan were completed by DRES. Once reviewed and any revisions completed, they will be signed-off and sent to all key players of the Project. Mr O'Connell stated that the SAMP report would be ready next week. *Secreterial note: SAMP report was received.* LCol Johnson stated that a meeting is scheduled with DRES on Monday, 15 Jan 01 to review the documents and discuss Project issues. All three documents are required for the Environmental Assessment. Mr O'Connell stated that there are still some issues to resolve such as Ottawa Fire and Ambulance services and HazMat. As this is the first Project since the amendments to the Canada Labour Code Part II, Mr Gardiner stated that Mr Andy Davis could provide advice pertaining to occupational health and safety legislation. Finally, an Environmental Assessment is required for the Project. He stated that this is a DND due diligence requirement under Corporate policies. *Secretarial note: Environmental Assessment was received the 26 Jan 01.*

11. Mr Gariano: An Environmental Screening versus an Environmental Assessment will be conducted as per PWGSC direction. LCol Taillefer stated that to comply with due diligence, an Environmental Assessment is required and must be done. LCol Johnson stated that an Environmental Assessment should be conducted in advance to ensure that all required measures are in place. Ms Kennedy inquired as to the difference between an Environmental Assessment and an Environmental Screening. Maj Burnford stated that there is no difference between an Environmental Assessment and an Environmental Screening as they are one and the same and obtain equivalent results.

IV - COMMUNICATION

12 Capt St-Denis: Communication with the public/media is inevitable. LCol Taillefer stated that the Project OPI, Mr Gardiner, is the spokesperson for the Project. Mr Doucet stated that there are experts in the field of communication who can help keep things on track and control the agenda. Capt St-Denis reported that the communication plan is a simple document stipulating what will be done in regards to the project. He stated that once we break ground another media briefing will be held with a visit to the site. An updated communication package is to be prepared by DGPA representative, Capt Tom St-Denis.

13. Mr Doucet: PWGSC directive states that to be a spokesperson for the media, authorization must come from their Director. Mr Doucet will clarify this with PWGSC Corporate staff and verify whether or not Mr O'Connell has authorisation to be a spokesperson if needed. Any media questions will be addressed through the Project Spokesperson.

14. LCol Johnson: The press are likely to show up unannounced. If this happens, there is no obligation to provide an immediate answer to any questions/inquiries which can be referred to the spokesperson to be dealt with at a later time Capt St-Denis stated that the next media briefing will be released in a bilingual format. LCol Taillefer stated that the need for bilingual capability will be addressed.

V - PROJECT ORGANIZATION AND PARTICIPANTS

15. LCol Johnson: There is a need to be more specific as we get closer to the date of commencement. He reiterated the need to have a meeting every second day starting on Wed, 17 Jan at 1300 Hrs.

16.. Mr Davis inquired about the implication of our legal staff in the Project? Mr Davis voiced his concern on occupational health and safety issues pertaining to legislation under the Canada Labour Code Part II. *Secretarial note: this matter needs to be clarified before the beginning of the intrusive investigation, further, consultation is taking place with JAG.*

17. Mr Brez: There is a requirement for an alternate for the Project OPI and the Project Manager. Mr Bois will be the alternate for Mr O'Connell. Mr Gardiner will look into finding an alternate for his Project OPI position. *Secretarial note: Alternate for the project OPI has not been resolved yet. Possibility of contracting out is being investigated.* Maj Burnford will be the DGE alternate for Capt Whitley

18. Mr Gardiner: All key players require occupational health and safety training in accordance with the Canada Labour Code Part II and environmental and HazMat training in accordance with the Canadian Environmental Protection Act *Secretarial note: the project manager must have all the required qualifications before any intrusive investigation begins.*

VI - ADJOURNMENT

19. There being no further business, LCol Taillefer thanked the attendees for the participation He stated that the main objectives remain to ensure that the health and safety of the public is protected while fulfilling our duty of car responsibility. Teamwork and effective communication are essential. Any problems encountered are to be directed to the Project OPI.

VII-FOLLOW UP DECISIONS

20. Concerns were raised at and after the meeting. The concerns were discussed on the 25 Jan 01 between Mr. Paul Brez and COS LCol Taillefer. The following decisions are to be implemented.

a. the identified project manager must have all the required qualifications before the intrusive investigation begins;
b. all plans required by the DND must be completed and signed-off by the required players associated with the project before the start of the project;
c. the project OPI, Mr. John Gardiner is appointed as the ''Constructor'' for DND for the project;
d. during the next phase: Mr. K. Pirie will be responsible for the Intrusive Investigation as the Field Technical Managerr and will report to the project OPI/Constructor; and
e. the project is to be started as planned on the 4 of Feb unless advice received by JAG dictates otherwise.

J.B J. Taillefer
Lieutenant Colonel
CFSU Ottawa
Chairperson

Distribution List

Action

All attendees

Info

Mr Ken Pirie
Dr Peter Lockwood
Dr Tom Cousins
Ms Carol Lacoste-asmis
Capt D Whitley
Mr Paul Bois

MINUTES OF PROJECT CLEAR MEETING
HELD ON WEDNESDAY, 17 JANUARY 2001 AT 1330HRS
AT CONNAUGHT RANGES AND PRIMARY TRAINING CENTRE

January 2001

Attendees Present:

LCol Bryan Johnson, CO CRPTC, 998-2129
Mr Gary Soucey, DRES
Mr Chris Adie, DRES, (403) 548-5683
Mr Trevor Jones, SST/DREO
Mr Diego Estan, SST/DREO, 998-2208
Capt Tom St-Denis, DGPA, 996-0451
Mr Mike O'Connell, PWGSC, CSU #1, 775-4541
MWO Chuck Courtemanche, CRPTC, 991-5740
Mr John Gardiner, ESO/CFSU Ottawa, 995-7820
Ms Penny MacGregor, ESO/ CFSU Ottawa, 995-6202

INTRODUCTORY REMARKS

1. LCol Johnson convened the meeting by first mentioning that this particular meeting would be the first of several that will be taking place in the near future in regards to project CLEAR. As an extension of last Friday's meeting (12 January 2001) these meetings will be conducted to co-ordinate every aspect of Project CLEAR.

2. LCol Johnson: The main point of last Friday's meeting was to confirm that DND is responsible for this project. It was clarified that John Gardiner is the Project OPI , Penny MacGregor is the stand-in for John Gardiner, Mike O'Connell is the Project Manager, LCol Johnson is the Project Co-ordinator, Capt Tom St-Denis is the DGPA Representative for the Project and MWO Chuck Courtemanche is the Chief Co-ordinator for everything that happens at CRPTC. LCol Johnson stated that anything to do with the project should be kept between these "core" people, to ensure we maintain a method of dealing with any problems
John Gardiner, Mike O'Connell and LCol Johnson should be the only people contacted on any decision making to do with the project, except the technical aspects, which will remain in DRES's control. Either John Gardiner or LCol Johnson will keep LCol Taillefer (COS Sp, CFSU Ottawa) up to date on everything that happens with Project CLEAR.

The DRES team will be on site and ready to begin on the 4th of February 2001. This will be the official D-day.

The Core people will meet a week from today- Wednesday, 24 January 2001 at 1300hrs.

Secretarial note: Penny MacGregor is not the stand-in for John Gardiner. Ms MacGregor will continue to be actively involved in all aspects of the OPI role and

responsibilities including daily communication within DND on issues pertaining to the project. Mr Gardiner's stand-in for the project is undecided at this point.

ROUND TABLE DISCUSSION:

3. Mr Gardiner stated that last Friday the 12 February 2001, Mr Ian Huggett of Eco-Watch sent an email, with a cc to Alymer Council, pertaining to some concerns he had with this project. Capt St-Denis replied that he contacted Alymer Council explaining the project. At that point they had no other concerns. Capt St-Denis has not talked to Mr Huggett as of today but did leave a message for him to contact him directly. The Alymer Council was asked to contact Capt St-Denis if they had any other concerns.
LCol Johnson stated that we should plan for media interest and all concerns will be treated as serious.

4. Mr Gardiner stated that the National Capital Commission (NCC) would like a copy of the following three consultant reports: Aquaterre Phase I, Duke Engineering Phase II and Oliver, Mangione, McCalla & Associates (OMM). LCol Johnson should also have a copy of these reports on hand. Mr O'Connell will ensure that a copy of these reports get to LCol Johnson.

5. Mr Gardiner: Thanks to Mr Ken Pirie we have the Health and Safety Plan, the Field Technical Plan and the Emergency Response Plan. In regards to the Communication Package we are still awaiting comments from DREO so we can conclude this process. Mr O'Connell stated that OMM is also waiting for the communication package. Capt St-Denis stated that the target date for all comments to be received is Wednesday, 25 Jan 01.

6. Mr Gardiner inquired as to the status of OMM preparing the environmental assessment for the investigation phase of the project. Mr O'Connell replied that Tony Gariano is working on it.

7. Mr O'Connell stated that the project is about 90% ready to begin. There was one snag that will be looked after today. They need to do some modifying with the power going in, but should be done by tomorrow. The last thing that needs to be done before DRES can start is the clearing of the actual work site. Whoever is clearing the site will have to make sure to watch the monitoring wells. The only outstanding item is the SAMP report.

8. Mr Estan stated DREO would like water samples from the monitoring wells on the landfill site.

9. Capt St-Denis clarified that he is not to act as a spokesperson for the project. He is to be strictly a facilitator for the Public Affairs side of the project. He is the initial point of contact for the regulatory authorities and the media.

10. Mr Jones stated that DREO will be at the meeting next week to support DRES, not to discuss technical issues.

11. Mr Adie stated that there is one more shipment of equipment on its way. GCMS is tied up in customs. The generator is missing.

ADJOURNMENT

12. LCol Johnson thanked everyone for attending and reminded them of the meeting on Wednesday, 24 January 2001.

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